show rgmp statistics

Use the **show rgmp statistics** command to display all the RGMP-related statistics for a given VLAN.

show rgmp statistics [*vlan*]

Syntax Description

vlan	(Optional) Number of the VLAN.

Defaults

The default is VLAN 1.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

This command is supported by the Catalyst 5000 family switches.

Examples

This example displays RGMP-related statistics for a specific VLAN:

```
Console> show rgmp statistics 23
RGMP enabled
RGMP Statistics for vlan <23>:
Recieve:
Valid pkts:       20
Hellos:           10
Joins:            5
Leaves:           5
Join Alls:        0
Leave Alls:       0
Byes:             0
Discarded:        0
Transmit:
Total Pkts:       10
Failures:         0
Hellos:           10
Joins:            0
Leaves:           0
Join Alls:        0
Leave Alls:       0
Byes:             0
Console>
```

Related Commands

set rgmp
clear rgmp statistics

show rif

Use the **show rif** command to display RIF information.

show rif [*vlan_num*]

Syntax Description

vlan_num	(Optional) Number of the VLAN that you want to view RIF information.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

This command is supported by the Catalyst 5000 family switches.

Examples

This example shows how to display RIF information for the system and for a VLAN:

```
Console> show rif
MAC                  VLAN     RIF
-------------------- -------- --------------------
00:00:30:e2:cf:00 on 401  via 0610.001a.0020
00:05:77:01:bc:4a on 1020 via 0690.00d1.00e2
00:05:77:01:bc:4b on 1020 via 0690.00d1.00e2
00:05:77:01:bc:48 on 1020 via 0690.00d1.00e2
```

This example shows how to display RIF information for a VLAN:

```
Console> show rif 401
MAC                  VLAN     RIF
-------------------- -------- --------------------
00:00:30:e2:cf:00 on 401  via 0610.001a.0020
Console>
```

show rsmautostate

Use the **show rsmautostate** command to display the current status of line protocol state determination of the RSMs caused by Catalyst 5000 family and 2926G series switch port state change.

show rsmautostate *mod_num*

Syntax Description

mod_num	Number of the module.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

This command is supported by the Catalyst 5000 family switches.

Examples

This example shows how to display the current status of RSM line protocol state determination:

```
Console> show rsmautostate
RSM Auto port state: enabled
Console>
```

Related Commands

set rsmautostate

show snmp

Use the **show snmp** command to display SNMP information.

show snmp [**noalias**]

show snmp counters

show snmp counters {*mod_num* | *port_num*} [**dot1d** | **dot3** | **dot5** | **fddi** | **hcrmon** | **ifmib** | **rmon**]

Syntax Description

noalias	(Optional) Keyword that forces the display to show IP address, not IP aliases.
counters	Keyword that specifies counters.
mod_num	Number of the module.
port_num	Number of the port.
dot1d	(Optional) Keyword that specifies dot1d MIB counters.
dot3	(Optional) Keyword that specifies etherlike counters.
dot5	(Optional) Keyword to specify Token Ring counters.
fddi	(Optional) Keyword that specifies FDDI counters.
hcrmon	(Optional) Keyword that specifies hcrmon counters.
ifmib	(Optional) Keyword that specifies Interface counters.
rmon	(Optional) Keyword that specifies RMON counters.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Defaults

This example shows how to display SNMP information:

```
Console> show snmp
RMON: Enabled
Traps Enabled: Chassis
Port Traps Enabled: None

Community-Access     Community-String
----------------     --------------------
read-only            public
read-write           private
read-write-all       secret

Trap-Rec-Address                            Trap-Rec-Community
------------------------------------------  --------------------
192.122.173.42                              public
Console>
```

This example shows the SNMP information displayed when a Network Analysis Module is installed:

```
Console> show snmp
RMON: Enabled
Traps Enabled: Chassis
Port Traps Enabled: None
Community-Access     Community-String
----------------     --------------------
read-only            public
read-write           private
read-write-all       secret

Trap-Rec-Address                            Trap-Rec-Community
------------------------------------------  --------------------
192.122.173.42                              public

Extended Rmon:              Disabled
Extended RMON Netflow:      Disabled
Extended RMON Vlanmode:     Disabled
Extended RMON Vlanagent:    Disabled
```

Table 2-59 describes the possible fields (depending on the port type queried) in the **show snmp** command output.

Table 2-59 show snmp Command Output Fields

Field	Description
RMON	Status of whether RMON is enabled or disabled.
Traps Enabled	Trap types that are enabled.
Port Traps Enabled	Set of ports whose linkup/linkdown trap is enabled.
Community-Access	Configured SNMP communities.
Community-String	SNMP community strings associated with each SNMP community.
Trap-Rec-Address	IP address or IP alias of trap receiver hosts.
Trap-Rec-Community	SNMP community string used for trap messages to the trap receiver.
Extended Rmon	Status of whether extended RMON is enabled or disabled.
Extended RMON Netflow	Status of whether Netflow Monitor option is enabled or disabled.
Extended RMON Vlanmode	Status of whether VLAN Monitor option is enabled or disabled.
Extended RMON Vlanagent	Status of whether VLANagent option is enabled or disabled.

This example shows how to display SNMP counter information:

```
Console> (enable) show snmp counters
mib2 SNMP group counters:
snmpInPkts                = 13993
snmpOutPkts               = 13960
snmpInBadVersions         = 0
snmpInBadCommunityNames   = 33
snmpInBadCommunityUses    = 0
snmpInASNParseErrs        = 0
```

```
snmpInNoSuchNames          = 0
snmpInBadValues            = 0
snmpInReadOnlys            = 0
snmpInGenErrs              = 0
snmpInTotalReqVars         = 61747
snmpInTotalSetVars         = 0
snmpInGetRequests          = 623
snmpInGetNexts             = 13337
snmpInSetRequests          = 0
snmpInGetResponses         = 0
snmpInTraps                = 0
snmpOutTooBigs             = 0
snmpOutNoSuchNames         = 230
snmpOutBadValues           = 0
snmpOutGenErrs             = 0
snmpOutGetRequests         = 0
snmpOutGetNexts            = 0
snmpOutSetRequests         = 0
snmpOutGetResponses        = 13960
snmpOutTraps               = 0
Console> (enable)
```

Table 2-60 describes the fields in the **show snmp counter** command output.

Table 2-60 show snmp counters Command Output Fields

Field	Description
snmpInPkts	Number of messages delivered to the SNMP entity from the transport service.
snmpOutPkts	Number of SNMP messages passed from the SNMP protocol entity to the transport service.
snmpInBadVersions	Number of SNMP messages delivered to the SNMP entity for an unsupported SNMP version.
snmpInBadCommunityNames	Number of SNMP messages delivered to the SNMP entity that used an SNMP community name not known to said entity.
snmpInBadCommunityUses	Number of SNMP messages delivered to the SNMP entity that represented an SNMP operation not allowed by the SNMP community named in the message.
snmpInASNParseErrs	Number of ASN.1 or BER errors encountered by the SNMP entity when decoding received SNMP messages.
snmpInTooBigs	Number of SNMP PDUs delivered to the SNMP protocol entity with the value of the error-status field as “tooBig.”
snmpInNoSuchNames	Number of SNMP PDUs delivered to the SNMP protocol entity with the value of the error-status field as “noSuchName.”
snmpInBadValues	Number of SNMP PDUs delivered to the SNMP protocol entity with the value of the error-status field as “badValue.”
snmpInReadOnlys[1]	Number of valid SNMP PDUs delivered to the SNMP protocol entity with the value of the error-status field as “readOnly.”
snmpInGenErrs	Number of SNMP PDUs delivered to the SNMP protocol entity with the value of the error-status field as “genErr.”

Table 2-60 show snmp counters Command Output Fields (continued)

Field	Description
snmpInTotalReqVars	Number of MIB objects retrieved successfully by the SNMP protocol entity as the result of receiving valid SNMP Get-Request and Get-Next PDUs.
snmpInTotalSetVars	Number of MIB objects altered successfully by the SNMP protocol entity as the result of receiving valid SNMP Set-Request PDUs.
snmpInGetRequests	Number of SNMP Get-Request PDUs accepted and processed by the SNMP protocol entity.
snmpInGetNexts	Number of SNMP Get-Next PDUs accepted and processed by the SNMP protocol entity.
snmpInSetRequests	Number of SNMP Set-Request PDUs accepted and processed by the SNMP protocol entity.
snmpInGetResponses	Number of SNMP Get-Response PDUs accepted and processed by the SNMP protocol entity.
snmpInTraps	Number of SNMP Trap PDUs accepted and processed by the SNMP protocol entity.
snmpOutTooBigs	Number of SNMP PDUs generated by the SNMP protocol entity with the value of the error-status field as “tooBig.”
snmpOutNoSuchNames	Number of SNMP PDUs generated by the SNMP protocol entity with the value of the error-status as “noSuchName.”
snmpOutBadValues	Number of SNMP PDUs generated by the SNMP protocol entity with the value of the error-status field as “badValue.”
snmpOutGenErrs	Number of SNMP PDUs generated by the SNMP protocol entity with the value of the error-status field as “genErr.”
snmpOutGetRequests	Number of SNMP Get-Request PDUs generated by the SNMP protocol entity.
snmpOutGetNexts	Number of SNMP Get-Next PDUs generated by the SNMP protocol entity.
snmpOutSetRequests	Number of SNMP Set-Request PDUs generated by the SNMP protocol entity.
snmpOutGetResponses	Number of SNMP Get-Response PDUs generated by the SNMP protocol entity.
snmpOutTraps	Number of SNMP Trap PDUs generated by the SNMP protocol entity.

1. It is a protocol error to generate an SNMP PDU that contains the value “readOnly” in the error-status field. This object is provided as a means of detecting incorrect implementations of the SNMP.

This example shows how to display dot1d MIB counter information for module 1, port 7:

```
Console> (enable) show snmp counters 1/7 dot1d
dot1d MIB counters:
dot1dBasePortDelayExceededDiscards       = 0
dot1dBasePortMtuExceededDiscards         = 0
dot1dStpTopChanges                       = 0
dot1dStpPortForwardTransitions           = 0
dot1dTpLearnedEntryDiscards              = 0
dot1dTpPortInFrames                      = 0
dot1dTpPortOutFrames                     = 0
dot1dTpPortInDiscards                    = 0
Console> (enable)
```

This example shows how to display etherlike counters for module 1, port 7:

```
Console> (enable) show snmp counters 1/7 dot3
Etherlike-MIB counters:
dot3StatsAlignmentErrors                 = 0
dot3StatsFCSErrors                       = 0
dot3StatsSingleCollisionFrames           = 0
dot3StatsMultipleCollisionFrames         = 0
dot3StatsSQETestErrors                   = 0
dot3StatsDeferredTransmissions           = 0
dot3StatsLateCollisions                  = 0
dot3StatsExcessiveCollisions             = 0
dot3StatsInternalMacTransmitErrors       = 0
dot3StatsCarrierSenseErrors              = 0
dot3StatsFrameTooLongs                   = 0
dot3StatsInternalMacReceiveErrors        = 0
Console> (enable)
```

This example shows how to display Token Ring counters for module 7, port 3:

```
Console> (enable) show snmp counters 7/3 dot5
Dot5 MIB:
dot5StatsLineErrors            = 0
dot5StatsBurstErrors           = 0
dot5StatsACErrors              = 0
dot5StatsAbortTransErrors      = 0
dot5StatsInternalErrors        = 0
dot5StatsLostFrameErrors       = 0
dot5StatsReceiveCongestions    = 0
dot5StatsFrameCopiedErrors     = 0
dot5StatsTokenErrors           = 0
dot5StatsSoftErrors            = 0
dot5StatsHardErrors            = 0
dot5StatsSignalLoss            = 0
dot5StatsTransmitBeacons       = 0
dot5StatsRecoverys             = 0
dot5StatsLobeWires             = 0
dot5StatsRemoves               = 0
dot5StatsSingles               = 0
dot5StatsFreqErrors            = 0
Console> (enable)
```

This example shows how to display hcrmon counters for module 1, port 7:

```
Console> (enable) show snmp counters 1/7 hcrmon
HC-RMON:
etherStatsHighCapacityOverflowPkts                      = 0
etherStatsHighCapacityPkts                              = 0
etherStatsHighCapacityOverflowOctets                    = 0
etherStatsHighCapacityOctets                            = 0
etherStatsHighCapacityOverflowPkts64Octets              = 0
etherStatsHighCapacityPkts64Octets                      = 0
etherStatsHighCapacityOverflowPkts65to127Octets         = 0
etherStatsHighCapacityPkts65to127Octets                 = 0
etherStatsHighCapacityOverflowPkts128to255Octets        = 0
etherStatsHighCapacityPkts128to255Octets                = 0
etherStatsHighCapacityOverflowPkts256to511Octets        = 0
etherStatsHighCapacityPkts256to511Octets                = 0
etherStatsHighCapacityOverflowPkts512to1023Octets       = 0
etherStatsHighCapacityPkts512to1023Octets               = 0
etherStatsHighCapacityOverflowPkts1024to1518Octets      = 0
etherStatsHighCapacityPkts1024to1518Octets              = 0
Console> (enable)
```

This example shows how to display IFMIB counters for module 1, port 7:

```
Console> (enable) show snmp counters 1/7 ifmib
Interface MIB counter:
ifInOctets           = 0
ifInUcastPkts        = 0
ifInNUcastPkts       = 0
ifInDiscards         = 0
ifInErrors           = 0
ifInUnknownProtos    = 0
ifOutOctets          = 0
ifOutUcastPkts       = 0
ifOutNUcastPkts      = 0
ifOutDiscards        = 0
ifOutErrors          = 0
ifInMulticastPkts    = 0
ifInBroadcastPkts    = 0
ifOutMulticastPkts   = 0
ifOutBroadcastPkts   = 0
ifHCInOctets         = 0
ifHCInUcastPkts      = 0
ifHCInMulticastPkts  = 0
ifHCInBroadcastPkts  = 0
ifHCOutOctets        = 0
ifHCOutUcastPkts     = 0
ifHCOutMulticastPkts = 0
ifHCOutBroadcastPkts = 0
Console> (enable)
```

This example shows how to display RMON counters for module 1, port 7:

```
Console> (enable) show snmp counters 1/7 rmon
RMON MIB counters:
etherStatsDropEvents                = 0
etherStatsOctets                    = 0
etherStatsPkts                      = 0
etherStatsBroadcastPkts             = 0
etherStatsMulticastPkts             = 0
etherStatsUndersizePkts             = 0
etherStatsOversizePkts              = 0
etherStatsFragments                 = 0
etherStatsJabbers                   = 0
etherStatsCollisions                = 0
etherStatsPkts64Octets              = 0
etherStatsPkts65to127Octets         = 0
etherStatsPkts128to255Octets        = 0
etherStatsPkts256to511Octets        = 0
etherStatsPkts512to1023Octets       = 0
etherStatsPkts1024to1518Octets      = 0
Console> (enable)
```

Related Commands **set snmp rmon**
set snmp trap

show snmp access

Use the **show snmp acccess** command to display SNMP access information.

show snmp access [**volatile** | **nonvolatile** | **read-only**]

show snmp access [**-hex**] *groupname* **security-model** {**v1** | **v2c**}

show snmp access [**-hex**] *groupname* **security-model v3** {**noauthentication** | **authentication** | **privacy**}

Syntax Description

volatile	(Optional) Keyword to display information for volatile storage types.
nonvolatile	(Optional) Keyword to display information for nonvolatile storage types.
read-only	(Optional) Keyword to display information for read-only storage types.
-hex	(Optional) Keyword to display *groupname* and *username* as a hexadecimal character.
groupname	Name of the SNMP group or collection of users who have a common access policy.
security-model v1 | **v2c** | **v3**	Keywords to specify security model v1, v2c, or v3.
noauthentication	Keyword to display information for security models not set to use authentication protocol.
authentication	Keyword to display information for authentication protocol.
privacy	Keyword to display information regarding messages sent on behalf of the user protected from disclosure.

Defaults

The default storage type is **volatile**.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

If you use special characters for the *groupname* and *username* (nonprintable delimiters for these parameters), you must use a hexadecimal keyword, which is one or two hexadecimal digits separated by a colon (:); for example, 00:ab:34.

The **read-only** keyword is supported for security model v3 only.

Related Commands

set snmp access
clear snmp access

show snmp engineid

Use the **show snmp engineid** command to display the SNMP local engine ID.

show snmp engineid

Syntax Description

This command has no arguments or keywords.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

If the SNMP engine ID is cleared, the system automatically regenerates a local SNMP engine ID.

The SNMP engine and SNMP entity has a one-to-one mapping. You can also identify the SNMP entity, which is represented as hexadecimal numbers only, and must be from 5–32 bytes long; for example, 00:00:00:09:0a:fe:ff:12:97:33:45:12.

Examples

This example shows how to display the SNMP engine ID:

```
Console> (enable) show snmp engineid
EngineId: 00:00:00:09:00:d0:00:4c:18:00
Engine Boots: 1234455
Console> (enable)
```

Table 2-61 describes the fields in the **show snmp engineid** command output.

Table 2-61 show snmp engineid Command Output Fields

Field	Description
EngineId	String identifying the name of the SNMP copy on the device.
Engine Boots	The number of times an SNMP engine has been started or reinitialized.

Related Commands

show snmp

show snmp group

Use the **show snmp group** command to display the name of the SNMP group or collection of users who have a common access policy.

show snmp group [**volatile** | **nonvolatile** | **read-only**]

show snmp group {**-hex**} {*groupname*} **user** {**-hex**} {*username*} {**security-model** {**v1** | **v2** | **v3**}}

Syntax Description

volatile	(Optional) Keyword that specifies that the storage type is defined as temporary memory and the content is deleted if the device is turned off.
nonvolatile	(Optional) Keyword that specifies that the storage type is defined as persistent memory and the content remains after the device is turned off and on again.
read-only	(Optional) Keyword that specifies that the storage type is read-only.
groupname	Name of the SNMP group or collection of users who have a common access policy.
user	Keyword that specifies a SNMP group.
-hex	Keyword that displays *groupname* and *username* as a hexadecimal character.
username	Keyword that specifies the SNMP group user name.
security-model v1 | **v2** | **v3**	Keywords that specifies security model 1, 2c, or 3.

Defaults

The default storage type is volatile.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

If you use special characters for the *groupname* and *username* (nonprintable delimiters for these parameters), you must use a hexadecimal keyword, which is one or two hexadecimal digits separated by a colon (:); for example, 00:ab:34.

Examples

This example shows how to display the SNMP group:

```
Console> (enable) show snmp group
Security Model: v1
Security Name: public
Group Name: defaultROgroup
Storage Type: volatile
Row Status: active
```

```
Security Model: v1
Security Name: secret
Group Name: defaultRWALLgroup
Storage Type: volatile
Row Status: active

Security Model: v1
Security Name: private
Group Name: defaultRWgroup
Storage Type: volatile
Row Status: active

Security Model: v2c
Security Name: public
Group Name: defaultROgroup
Storage Type: volatile
Row Status: active
Console> (enable)
```

Table 2-62 describes the fields in the **show snmp group** command output.

Table 2-62 show snmp group Command Output Fields

Field	Description
Security Model	Security model used by the group.
Security Name	Security string definition.
Group Name	Name of the SNMP group or collection of users who have a common access policy.
Storage Type	Keyword to indicate whether the settings are volatile or nonvolatile.
Row Status	Status of the entry.

Related Commands

set snmp group
clear snmp group

show snmp notify

Use the **show snmp notify** command to display the snmpNotifyTable configuration.

show snmp notify [**volatile** | **nonvolatile** | **read-only**]

show snmp notify {**-hex**} {*notifyname*}

Syntax Description

volatile	(Optional) Keyword that specifies that the storage type is defined as temporary memory and the content is deleted if the device is turned off.
nonvolatile	(Optional) Keyword that specifies that the storage type is defined as persistent memory and the content remains after the device is power cycled.
read-only	(Optional) Keyword that specifies that the storage type is read-only.
-hex	Keyword that displays *notifyname* as a hexadecimal character.
notifyname	A unique identifier that indexes the snmpNotifyTable.

Defaults

The default is that storage type is nonvolatile.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

If you use special characters for the *notifyname* (nonprintable delimiters for this parameter), you must use a hexadecimal keyword, which is one or two hexadecimal digits separated by a colon (:); for example, 00:ab:34.

Examples

This example shows how to display the SNMP notify information for a specific notifyname:

```
Console> (enable) show snmp notify snmpV1Notification
Notify Name: snmpV1Notification
Notify Tag: snmpV1Trap
Notify Type: trap
Storage Type: volatile
Row Status: active
Console> (enable)
```

Table 2-63 describes the fields in the **show snmp notify** command output.

Table 2-63 show snmp notify Command Output Fields

Field	Description
Notify Name	Unique identifier used to index the snmpTargetAddrTable.
Notify Tag	Specifies selected entries in the snmpTargetAddrTable.
Notify Type	Trap: all messages generated contain SNMPv2-Trap PDUs. Inform: all messages generated contain InfoRequest PDUs.
Storage Type	Keyword to indicate whether the settings are volatile or nonvolatile.
Row Status	Status of the entry.

Related Commands

set snmp notify
clear snmp notify

show snmp targetaddr

Use the **show snmp targetaddr** command to display the SNMP target address entries in the snmpTargetAddressTable.

show snmp targetaddr [**volatile** | **nonvolatile** | **read-only**]

show snmp targetaddr {**-hex**} {*addrname*}

Syntax Description

volatile	(Optional) Keyword that specifies that the storage type is defined as temporary memory and the content is deleted if the device is turned off.
nonvolatile	(Optional) Keyword that specifies that the storage type is defined as persistent memory and the content remains after the device is power cycled.
read-only	(Optional) Keyword that specifies that the storage type is read-only.
-hex	Keyword that displays *addrname* as a hexadecimal character.
addrname	The arbitrary but unique name of the target agent; the maximum length is 32 bytes.

Defaults

The default storage type is nonvolatile.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

If you use special characters for the *addrname* (nonprintable delimiters for this parameter), you must use a hexadecimal keyword, which is one or two hexadecimal digits separated by a colon (:); for example, 00:ab:34.

Examples

This example shows how to display specific target address information in the snmpTargetAddressTable:

```
Console> (enable) show snmp targetaddr cisco
Target Address Name: cisco
IP Address: 170.0.25.1
UDP Port#: 165
Timeout: 100
Retry count: 5
Tag List: tag1 tag2 tag3
Parameters: jeorge
Storage Type: nonvolatile
Row Status: active
Console> (enable)
```

Table 2-64 describes the fields in the **show snmp targetaddr** command output.

Table 2-64 show snmp targetaddr Command Output Fields

Field	Description
Target Address Name	Name of the target address.
IP Address	Target IP address.
UDP Port #	Number of the UDP port of the target host to use.
Timeout	Number of timeouts.
Retry count	Number of retries.
Tag List	Tags that point to target addresses to send notifications to.
Parameters	Entry in the snmpTargetParamsTable; the maximum length is 32 bytes.
Storage Type	Keyword to indicate whether the settings are volatile or nonvolatile.
Row Status	Status of the entry.

Related Commands **set snmp targetaddr**
clear snmp targetaddr

show snmp targetparams

Use the **show snmp targetparams** command to display the SNMP parameters used in the snmpTargetParamsTable when generating a message to a target.

show snmp targetparams [**volatile** | **nonvolatile** | **read-only**]

show snmp targetparams {**-hex**} {*paramsname*}

Syntax Description

volatile	(Optional) Keyword that specifies that the storage type is defined as temporary memory and the content is deleted if the device is turned off.
nonvolatile	(Optional) Keyword that specifies that the storage type is defined as persistent memory and the content remains after the device is power cycled.
read-only	(Optional) Keyword that specifies that the storage type is read-only.
-hex	Keyword that displays *paramsname* as a hexadecimal character.
paramsname	A unique identifier that indexes the snmpTargetParamsTable; the maximum length is 32 bytes.

Defaults

The default storage type is volatile.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

If you use special characters for the *paramsname* (nonprintable delimiters for this parameter), you must use a hexadecimal keyword, which is one or two hexadecimal digits separated by a colon (:); for example, 00:ab:34.

Examples

This example shows how to display specific target parameter information in the snmpTargetParamsTable:

```
Console> (enable) show snmp targetparams snmpV1TrapParams
Target Parameter Name: snmpV1TrapParams
Message Processing Model: v1
Security Name: public
Security Level: noauthentication
Storage Type: volatile
Row Status: active
Console> (enable)
```

Table 2-65 describes the fields in the **show snmp targetparams** command output.

Table 2-65 show snmp targetparams Command Output Fields

Field	Description
Target Parameter Name	A unique identifier used to index the snmpTargetParamsTable.
Message Processing Model	Displays the version number used by the Message Processing Model.
Security Name	Security string definition.
Security Level	Type of security level (authentication: security level is set to use authentication protocol, noauthentication: security level is not set to use authentication protocol).
Storage Type	Keyword to indicate whether the settings are volatile or nonvolatile.
Row Status	Status of the entry.

Related Commands

set snmp targetparams
clear snmp targetparams

show snmp user

Use the **show snmp user** command to display SNMP information for a specific user.

show snmp user [**volatile** | **nonvolatile** | **read-only**]

show snmp user {**-hex**} {*user*} [**remote** {*engineid*}]

show snmp summary

Syntax Description

volatile	(Optional) Keyword that specifies that the storage type is defined as temporary memory and the content is deleted if the device is turned off.
nonvolatile	(Optional) Keyword that specifies that the storage type is defined as persistent memory and the content remains after the device is power cycled.
read-only	(Optional) Keyword that specifies that the storage type is read-only.
-hex	Keyword that displays *user* as a hexadecimal character.
user	Name of the SNMP user.
remote *engineid*	(Optional) Keyword and variable that specify the user name on a remote SNMP engine.
summary	Keyword that specifies summary of SNMP users.

Defaults

The defaults are as follows:

- Storage type is nonvolatile.
- Local SNMP engine ID.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

If you use special characters for *user* (nonprintable delimiters for this parameter), you must use a hexadecimal keyword, which is one or two hexadecimal digits separated by a colon (:); for example, 00:ab:34.

Examples

This example shows how to display specific user information:

```
Console> (enable) show snmp user joe
EngineId: 00:11:22:33:44
User Name: joe
Authentication Protocol: md5
Privacy Protocol: des56
Storage Type: volatile
Row Status: active
Console> (enable)
```

Table 2-66 describes the fields in the **show snmp user** command output.

Table 2-66 show snmp user Command Output Fields

Field	Description
EngineId	String identifying the name of the copy of SNMP on the device.
User Name	String identifying the name of the SNMP user.
Authentication Protocol	Type of authentication protocol.
Privacy Protocol	Type of privacy authentication protocol.
Storage Type	Keyword to indicate whether the settings are volatile or nonvolatile.
Row Status	Status of the entry.

Related Commands

set snmp user
clear snmp user

show snmp view

Use the **show snmp view** command to display the SNMP MIB view configuration.

show snmp view [**volatile** | **nonvolatile** | **read-only**]

show snmp view {**-hex**} {*viewname*} {*subtree*}

Syntax Description

volatile	(Optional) Keyword that specifies that the storage type is defined as temporary memory and the content is deleted if the device is turned off.
nonvolatile	(Optional) Keyword that specifies that the storage type is defined as persistent memory and the content remains after the device is power cycled.
read-only	(Optional) Keyword that specifies that the storage type is read-only.
-hex	Keyword that displays the *viewname* as a hexadecimal character.
viewname	Name of a MIB view.
subtree	Name of the subtree.

Defaults

The default view is volatile.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

If you use special characters for *viewname* (nonprintable delimiters for this parameter), you must use a hexadecimal keyword, which is one or two hexadecimal digits separated by a colon (:); for example, 00:ab:34.

A MIB subtree used with a mask defines a view subtree; it can be in OID format or a text name mapped to a valid OID.

Examples

This example shows how to display the SNMP MIB configuration:

```
Console> (enable) show snmp view
View Name: defaultUserView
Subtree OID: 1.3.6.1
Subtree Mask:
View Type: included
Storage Type: volatile
Row Status: active
Control> (enable)
```

Table 2-67 describes the fields in the **show snmp view** command output.

Table 2-67 show snmp view Command Output Fields

Field	Description
View Name	Name of a MIB view.
Subtree OID	Name of a MIB Subtree in OID format or a textname mapped to a valid OID.
Subtree Mask	Subtree mask can be all ones, all zeros or a combination of both.
View Type	Status of whether the MIB subtree is included or excluded.
Storage Type	Keyword to indicate whether the settings are volatile or nonvolatile.
Row Status	Status of the entry.

Related Commands

set snmp view
clear snmp view

show span

Use the **show span** command to display information about the current SPAN configuration:

show span

Syntax Description

This command has no keywords or arguments.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

SPAN in the context of a single module is the only possible configuration for Token Ring modules.

Examples

This example shows how to display SPAN information for the switch:

```
Console> (enable) show span
Destination:  Port 4/1
Admin Source:  Port 3/1-6
Oper Source:  Port 3/1-5
Direction:  transmit/receive
Incoming Packets:  enabled
Console> (enable)
```

Table 2-68 describes the fields in the **show span** command output.

Table 2-68 show span Command Output Fields

Field	Description
Destination	Destination port for SPAN information.
Admin Source	Source port or VLAN for SPAN information.
Oper Source	Operator port or VLAN for SPAN information.
Direction	Status of whether transmit, receive, or transmit/receive information is monitored.
Incoming Packets	Status of whether reception of normal incoming packets on the SPAN destination port is enabled or disabled.

Related Commands

clear config
set span

show spantree

Use the **show spantree** command to display spanning-tree information for a VLAN.

show spantree [*vlan* | *mod_num*/*port_num*] [**active**]

Syntax Description

vlan	(Optional) Number of the VLAN. If the VLAN number is not specified, the default is VLAN 1.
mod_num	(Optional) Number of the module.
port_num	(Optional) Number of the port on the module.
active	(Optional) Keyword that specifies to display only the active ports.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

The Catalyst 2948G and 2980G switches are fixed configuration switches. Ports are located on module 2 for the 2948G and on modules 2 and 3 for the 2980G; for this reason, if you enter *mod_num/port_num* **1/N**, an error message will be displayed.

Examples

This example shows how to display the spanning-tree configuration for VLAN 1005:

```
Console> show spantree 1005
VLAN 1005
Spanning tree enabled

Designated Root             00-40-0b-8f-8b-ec
Designated Root Priority    32768
Designated Root Cost        0
Designated Root Port        1/0
Root Max Age   6  sec    Hello Time 2  sec   Forward Delay 4  sec

Bridge ID MAC ADDR          00-40-0b-8f-8b-ec
Bridge ID Priority          32768
Bridge Max Age 6  sec    Hello Time 2  sec   Forward Delay 4  sec

Port,Vlan Vlan  Port-State     Cost   Priority  Fast-Start  Group-method
--------- ----  -------------  -----  --------  ----------  ------------
 1003     1005  inactive          80        32   disabled
Console>
```

This example shows how to display only the active ports:

```
Console> show spantree active
VLAN 1
Spanning tree enabled
Spanning tree type          ieee

Designated Root             00-60-70-4c-70-00
Designated Root Priority    32768
Designated Root Cost        19
Designated Root Port        1/1
Root Max Age   20 sec    Hello Time 2  sec   Forward Delay 15 sec

Bridge ID MAC ADDR          00-e0-1e-9b-2e-00
Bridge ID Priority          32768
Bridge Max Age 20 sec    Hello Time 2  sec   Forward Delay 15 sec

Port      Vlan  Port-State     Cost   Priority  Fast-Start  Group-Method
--------- ----  -------------  -----  --------  ----------  ------------
 1/1      1     forwarding        19        32   disabled
 3/1-2    1     forwarding        19        32   disabled    redundancy
```

Table 2-69 describes the possible fields in the **show spantree** command output.

Table 2-69 show spantree Command Output Fields

Field	Description
VLAN	VLAN for which spanning-tree information is shown.
Spanning tree	Status of whether Spanning-Tree Protocol is enabled or disabled.
Designated Root	MAC address of the designated spanning-tree root bridge.
Designated Root Priority	Priority of the designated root bridge.
Designated Root Cost	Total path cost to reach the root.
Designated Root Port	Port through which the root bridge can be reached (shown only on nonroot bridges).
Root Max Age	Amount of time a BPDU packet should be considered valid.
Hello Time	Number of times the root bridge sends BPDUs.
Forward Delay	Amount of time the port spends in listening or learning mode.
Bridge ID MAC ADDR	Bridge MAC address.
Bridge ID Priority	Bridge priority.
Bridge Max Age	Bridge maximum age.
Hello Time	Amount of time the bridge sends BPDUs.
Forward Delay	Amount of time the bridge spends in listening or learning mode.
Port	Port number.
Vlan	VLAN to which the port belongs.
Port-State	Spanning-tree port state (disabled, inactive, not-connected, blocking, listening, learning, forwarding, bridging, or type-pvid-inconsistent).

Table 2-69 show spantree Command Output Fields (continued)

Field	Description
Cost	Cost associated with the port.
Priority	Priority associated with the port.
Fast-Start	Status of whether the port is configured to use the fast-start feature.
Group-Method	Method of how the multiple ports are treated (redundancy=dual PHY and FDDI; repeater=RSM; channel=Fast EtherChannel).

Related Commands

show spantree backbonefast
show spantree blockedports
show spantree portstate
show spantree portvlancost
show spantree statistics
show spantree summary
show spantree uplinkfast

show spantree backbonefast

Use the **show spantree backbonefast** command to display whether the spanning-tree Backbone Fast Convergence feature is enabled.

show spantree backbonefast

Syntax Description

This command has no arguments or keywords.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Examples

This example shows how to display whether the spanning-tree Backbone Fast Convergence feature is enabled:

```
Console> show spantree backbonefast
Backbonefast is enabled.
Console>
```

show spantree blockedports

Use the **show spantree blockedports** command to display only the blocked ports.

show spantree blockedports [*vlan_num*]

Syntax Description

vlan_num	(Optional) Number of the VLAN.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

If you do not specify a VLAN number, all blocked ports in the system are displayed.

Examples

This example shows how to display the blocked ports for VLAN 1002:

```
Console> show spantree blockedports 1002
Number of blocked ports (segments) in VLAN 1002 : 0
Console>
```

Related Commands

show spantree

show spantree portstate

Use the **show spantree portstate** command to determine the current spanning-tree state of a Token Ring port within a spanning tree.

show spantree portstate [*trcrf*]

Syntax Description

trcrf	(Optional) Token Ring concentrator relay function statistical information.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

This command is supported by the Catalyst 5000 family switches.

Examples

This example shows how to display the current spanning-tree state of a Token Ring port within a spanning tree:

```
Console> show spantree portstate 1003
Port,Vlan Vlan  Port-State     Cost   Priority  Fast-Start  Group-method
--------- ----  -------------  -----  --------  ----------  ------------
 1003     1005  inactive          80         4   disabled
* = portstate set by user configuration
Console>
```

Related Commands

set spantree portstate

show spantree portvlancost

Use the **show spantree portvlancost** command to show the path cost for the VLANs on a port.

show spantree portvlancost *mod_num/port_num*

Syntax Description

mod_num	Number of the module.
port_num	Number of the port.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

The Catalyst 2948G and 2980G switches are fixed configuration switches. Ports are located on module 2 for the 2948G and on modules 2 and 3 for the 2980G; for this reason, if you enter *mod_num/port_num* **1/N**, an error message will be displayed.

Examples

This example shows how to display the path cost for the VLANs on port 2/12:

```
Console> show spantree portvlancost 2/12
Port 2/12 VLANs 1-1005 have path cost 19.
Console>
```

Related Commands

show spantree
set spantree portvlancost

show spantree statistics

Use the **show spantree statistics** command to show spanning-tree statistical information.

show spantree statistics *mod_num/port_num* [*vlan*]

show spantree statistics {*trcrf* | *trbrf*}

Syntax Description

mod_num	Number of the module.
port_num	Number of the port.
vlan	(Optional) Number of the VLAN.
trcrf	Number of the Token Ring concentrator relay function VLAN.
trbrf	Number of the Token Ring bridge relay function VLAN.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

The *trcrf* and *trbrf* arguments are not supported by the Catalyst 4000 family and 2948G switches.

The Catalyst 2948G and 2980G switches are fixed configuration switches. Ports are located on module 2 for the 2948G and on modules 2 and 3 for the 2980G; for this reason, if you enter *mod_num/port_num* **1/N**, an error message will be displayed.

Examples

This example shows how to display Token Ring concentrator relay function statistical information:

```
Console> (enable) show spantree statistics 1003 1005
TR CRF 1003, TR BRF 1005

SpanningTree enabled for vlanNo = 1005

               BPDU-related parameters
port spanning tree                  enabled
state                               disabled
port_id                             0xcccf
port number                         0x7eb
path cost                           80
message age (port/VLAN)             0(10)
designated_root                     00-10-2f-52-eb-ec
designated_cost                     0
designated_bridge                   00-10-2f-52-eb-ec
designated_port                     0xcccf
top_change_ack                      FALSE
config_pending                      FALSE
port_inconsistency                  none
```

```
                PORT based information & statistics
config bpdu's xmitted (port/VLAN)    0(0)
config bpdu's received (port/VLAN)   0(0)
tcn bpdu's xmitted (port/VLAN)       0(0)
tcn bpdu's received (port/VLAN)      0(0)
forward trans count                  0
scp failure count                    0

                Status of Port Timers
forward delay timer                  INACTIVE
forward delay timer value            0
message age timer                    INACTIVE
message age timer value              0
topology change timer                INACTIVE
topology change timer value          0
hold timer                           INACTIVE
hold timer value                     0
delay root port timer                INACTIVE
delay root port timer value          0

                VLAN based information & statistics
spanningtree type                    ibm
spanningtree multicast address       c0-00-00-00-01-00
bridge priority                      32768
bridge mac address                   00-10-2f-52-eb-ec
bridge hello time                    2 sec
bridge forward delay                 4 sec
topology change initiator:           1/0
topology change                      FALSE
topology change time                 14
topology change detected             FALSE
topology change count                0
topology change last recvd. from     00-00-00-00-00-00

                Other port-specific info
dynamic max age transitions          0
port bpdu ok count                   0
msg age expiry count                 0
link loading                         1
bpdu in processing                   FALSE
num of similar bpdus to process      0
next state                           0
src mac count:                       0
total src mac count                  0
curr_src_mac                         00-00-00-00-00-00
next_src_mac                         00-00-00-00-00-00
channel_src_mac                      00-00-00-00-00-00
channel src count                    0
channel ok count                     0
Console> (enable)
```

Table 2-70 describes the possible fields in the **show spantree statistics** command output.

Table 2-70 show spantree statistics Command Output Fields

Field	Description
BPDU-related parameters	
port spanning tree	Status of whether Spanning-Tree Protocol is enabled or disabled on the port.

Table 2-70 show spantree statistics Command Output Fields (continued)

Field	Description
state	Spanning-tree port state (Disabled, Listening, Learning, Forwarding, or Blocking).
port_id	Port identifier of the associated port.
port number	Port number.
path cost	Contribution of the path through this root port. This applies to the total path cost to the root for this bridge.
message age (port/VLAN)	Age of the received protocol information recorded for a port and the value of the Max Age parameter (shown in parenthesis) recorded by the switch.
designated_root	MAC address of the designated spanning-tree root bridge.
designated_cost	Cost of the path to the root offered by the designated port on the LAN to which this port is attached.
designated_bridge	Bridge identifier of the bridge assumed to be the Designated Bridge for the LAN associated with the port.
designated_port	Port identifier of the Bridge Port assumed to be the Designated Port for the LAN associated with the port.
top_change_ack	Value of the Topology Change Acknowledgment flag in the next configured BPDU to be transmitted on the associated port. The flag is set in reply to a Topology Change Notification BPDU.
config_pending	Boolean parameter set to record that a configured BPDU should be transmitted on expiration of the hold timer for the associated port.
port_inconsistency	Status of whether the port is in an inconsistent (PVID or port type) state or not.
PORT-based information and statistics	
config bpdu's xmitted (port/VLAN)	Number of BPDUs transmitted from the port. The number in parentheses is the number of configured BPDUs transmitted by the switch for this instance of spanning-tree.
config bpdu's received (port/VLAN)	Number of BPDUs received by this port. The number in parentheses is the number of configured BPDUs received by the switch for this instance of spanning-tree.
tcn bpdu's xmitted (port/VLAN)	Number of TCN BDPUs transmitted on this port.
tcn bpdu's received (port/VLAN)	Number of TCN BPDUs received on this port.
forward trans count	Number of times the port state transitioned to FORWARDing state.
scp failure count	Number of SCP failures.
Status of Port Timers	
forward delay timer	Status of the forward delay timer. This timer monitors the time spent by a port in the Listening and Learning States.

Table 2-70 show spantree statistics Command Output Fields (continued)

Field	Description
forward delay timer value	Current value of the forward delay timer.
message age timer	Status of the message age timer. This timer measures the age of the received protocol information recorded for a port.
message age timer value	Current value of the message age timer.
topology change timer	Status of the topology change timer. This timer determines the time period in which configured BPDUs are transmitted with the topology change flag set by the bridge when it is root following the detection of a topology change.
topology change timer value	Current value of the topology change timer.
hold timer	Status of the hold timer. This timer ensures that configured BPDUs are not transmitted too frequently through any bridge port.
hold timer value	Current value of the hold timer.
delay root port timer	Status of the delay root port timer. This timer enables fast convergence on linkup when the UplinkFast feature is enabled.
delay root port timer value	Current value of the delay root port timer.
VLAN-based information and statistics	
spanningtree type	Type of spanning tree (IEEE, IBM, CISCO).
spanningtree multicast address	Destination address used to send out configured BPDUs on a bridge port.
bridge priority	Part of the bridge identifier and is taken as the most significant part bridge ID comparisons.
bridge mac address	Bridge MAC address.
bridge hello time	Value of the Hello Time parameter when the bridge is the root or is attempting to become the root.
bridge forward delay	Value of the Forward Delay parameter when the bridge is the root or is attempting to become the root.
topology change initiator:	Number of the port that caused the topology change.
topology change	Boolean parameter set to record the value of the Topology Change flag in Config BPDUs to be transmitted by the Bridge on LANs for which the bridge is the Designated Bridge.
topology change time	Time period for which BPDUs are transmitted with the topology change flag set by the bridge when it is the root following the detection of a topology change. It is equal to the sum of the bridge's Max Age and Forward Delay parameters.

Table 2-70 show spantree statistics Command Output Fields (continued)

Field	Description
topology change detected	Boolean parameter set to TRUE when a Topology Change has been detected by or notified to the bridge.
topology change count	Number of times the topology change has occurred.
topology change last recvd. from	MAC address of the bridge that transmitted the last TCN BPDU.
Other port-specific info	
dynamic max age transitions	Number of dynamic max age transitions.
port bpdu ok count	Number of reported port BPDU counts.
msg age expiry count	Number of message age expires.
link loading	Status of whether the link is oversubscribed.
bpdu in processing	Status of whether the BPDU is under processing.
num of similar bpdus to process	Number of similar BPDUs to process that are received on a specific port.
received_inferior_bpdu	Status of whether the port received an inferior BPDU or in response to an RLQ BPDU.
next state	Port state before it is actually set by spanning tree, to facilitate other tasks in using the new value.
src mac count:	Number of BPDUs with the same source MAC address.
total src mac count	Number of BPDUs with all the source MAC addresses.
curr_src_mac	Source MAC address of the configured BPDU received on a particular port.
next_src_mac	MAC address from the different source.
channel_src_mac	Source MAC address of the channel port. It is used to detect channel misconfiguration and avoid spanning-tree loops.
channel src count	Number of times channel_src_mac gets changed and if the limit is exceeded, a channel misconfiguration is detected.
channel ok count	Boolean flag which records the channel status.

Related Commands

show spantree
clear spantree statistics

show spantree summary

Use the **show spantree summary** command to display a summary of spanning-tree information.

show spantree summary

Syntax Description

This command has no arguments or keywords.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Examples

This example shows how to display a summary of spanning-tree information:

```
Console> show spantree summary
Summary of connected spanning tree ports by vlan

Uplinkfast disabled for bridge.
Backbonefast enabled for bridge.

Vlan  Blocking Listening Learning Forwarding STP Active
----- -------- --------- -------- ---------- ----------
   1         0         0        0          1          1

BackboneFast statistics
-----------------------
Number of inferior BPDUs received (all VLANs)  : 0
Number of RLQ req PDUs received (all VLANs)    : 0
Number of RLQ res PDUs received (all VLANs)    : 0
Number of RLQ req PDUs transmitted (all VLANs) : 0
Number of RLQ res PDUs transmitted (all VLANs) : 0
Console>
```

Related Commands

show spantree

show spantree uplinkfast

Use the **show spantree uplinkfast** command to show the UplinkFast settings.

show spantree uplinkfast

Syntax Description

This command has no arguments or keywords.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Examples

This example shows how to display the UplinkFast settings:

```
Console> show spantree uplinkfast
VLAN port list
-----------------------------------------------
1-20   1/1(fwd),1/2-1/5
21-50  1/9(fwd), 1/6-1/8, 1/10-1/12
51-100 2/1(fwd), 2/12
Console>
```

Related Commands

show spantree
set spantree uplinkfast
clear spantree uplinkfast

Usage Guidelines

This command is supported by the Catalyst 5000 family switches.

show station controltable

Use the **show station controltable** command to display a collection of statistics and status information associated with each Token Ring station on the local ring. In addition, this command provides status information for each ring being monitored.

show station controltable [*mod_num*[/*port_num*]]

Syntax Description

mod_num	(Optional) Number of the module.
/port_num	(Optional) Number of the port on the module.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

This command is supported by the Catalyst 5000 family switches.

This command is only supported on Token Ring modules.

Examples

This example shows how to display a collection of statistics and status information associated with each Token Ring station on Token Ring module 3:

```
Console> show station controltable 3
Port    TableSize          ActiveStation      RingState
-----   -----------------  -----------------  -----------------
 3/1    0                  0                  Normal Operation
 3/2    0                  0                  Normal Operation
 3/3    0                  0                  Normal Operation
 3/4    0                  0                  Normal Operation
 3/5    0                  0                  Normal Operation
 3/6    0                  0                  Normal Operation
 3/7    0                  0                  Normal Operation
 3/8    0                  0                  Normal Operation
 3/9    0                  0                  Normal Operation
 3/10   0                  0                  Normal Operation
 3/11   0                  0                  Normal Operation
 3/12   0                  0                  Normal Operation
 3/13   0                  0                  Normal Operation
 3/14   0                  0                  Normal Operation
 3/15   0                  2                  Normal Operation
 3/16   0                  0                  Normal Operation
Port    BeaconSender       BeaconNAUN         OrderChanges
-----   -----------------  -----------------  -----------------
 3/1    00:00:00:00:00:00  00:00:00:00:00:00  0
 3/2    00:00:00:00:00:00  00:00:00:00:00:00  0
 3/3    00:00:00:00:00:00  00:00:00:00:00:00  0
```

```
 3/4     00:00:00:00:00:00  00:00:00:00:00:00  0
 3/5     00:00:00:00:00:00  00:00:00:00:00:00  0
 3/6     00:00:00:00:00:00  00:00:00:00:00:00  0
 3/7     00:00:00:00:00:00  00:00:00:00:00:00  0
 3/8     00:00:00:00:00:00  00:00:00:00:00:00  0
 3/9     00:00:00:00:00:00  00:00:00:00:00:00  0
 3/10    00:00:00:00:00:00  00:00:00:00:00:00  0
 3/11    00:00:00:00:00:00  00:00:00:00:00:00  0
 3/12    00:00:00:00:00:00  00:00:00:00:00:00  0
 3/13    00:00:00:00:00:00  00:00:00:00:00:00  0
 3/14    00:00:00:00:00:00  00:00:00:00:00:00  0
 3/15    00:00:00:00:00:00  00:00:00:00:00:00  1
 3/16    00:00:00:00:00:00  00:00:00:00:00:00  0
Console>
```

Table 2-71 describes the fields in the **show station controltable** command output.

Table 2-71 show station controltable Command Output Fields

Field	Description
Port	Module and port number.
TableSize	Number of Token Ring station entries in the table associated with this port.
ActiveStation	Number of active Token Ring station entries in the table associated with this port.
RingState	Current status of the ring.
BeaconSender	Address of the sender of the last beacon frame received on this ring. If no beacon frames have been received, this object shall be equal to six octets of zero.
BeaconNAUN	Address of the nearest upstream neighbor in the last beacon frame received on this ring. If no beacon frames have been received, this object shall be equal to six octets of zero.
OrderChanges	Number of add and delete events in the table associated with this port.

Related Commands

clear station
clear station counters
set station softerror
show counters
show station ordertable

show station ordertable

Use the **show station ordertable** command to display a listing of the order of stations on the monitored rings.

show station ordertable [*mod_num*[*/port_num*]]

Syntax Description

mod_num	(Optional) Number of the module.
/port_num	(Optional) Number of the port on the module.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

This command is supported by the Catalyst 5000 family switches.

Examples

This example shows how to display a listing of the order of stations on the Token Ring module 3:

```
Console> show station ordertable 3
Port    OrderIndex         Address
-----   ---------------    -----------------
 3/15   1                  00:05:77:05:40:63
        2                  00:00:30:cf:a0:98
Console>
```

Table 2-72 describes the fields in the **show station ordertable** command output.

Table 2-72 show station ordertable Command Output Fields

Field	Description
Port	Module and port number.
OrderIndex	Location of the station with respect to other stations on the ring.
Address	Physical address of the station.

Related Commands

clear station
clear station counters
set station softerror
show counters
show station controltable

show station softerror config

Use the **show station softerror config** command to display the soft error monitoring configuration for a port, module, or for all the Token Ring modules.

show station softerror config [*mod_num*[/*port_num*]]

Syntax Description

mod_num	(Optional) Number of the module.
port_num	(Optional) Number of the port on the module. If you do not specify a number, all ports are shown.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

This command is supported by the Catalyst 5000 family switches.

Examples

The following example shows how to display the soft error monitoring configuration for module 3:

```
Console> show station softerror config 3
Ports   Threshold Interval Status
-----   --------- -------- --------
 3/1    100       60       enabled
 3/2    100       60       enabled
 3/3    100       60       enabled
 3/4    100       60       enabled
 3/5    100       60       enabled
 3/6    100       60       enabled
 3/7    100       60       enabled
 3/8    100       60       enabled
 3/9    100       60       enabled
 3/10   100       200      enabled
 3/11   100       60       enabled
 3/12   100       60       enabled
 3/13   100       60       enabled
 3/14   100       60       enabled
 3/15   100       60       disabled
 3/16   100       60       disabled
Console>
```

Table 2-73 describes the fields shown in the **show station softerror config** command output.

Table 2-73 Show station softerror config Command Field Descriptions

Field	Description
Ports	Module and port number.
Threshold	Number of soft errors reported from a station connected to this port that if exceeded causes a soft error exceeded trap to be issued. Valid values are 1 to 255. The default is 100.
Interval	Sampling period (in seconds) during which the number of soft errors is monitored for each station connected to this port. Valid values are 0 to 65534. The default is 60.
Status	Indicates whether the collection of soft error statistics is enabled or disabled on the port.

Related Commands

clear station
clear station counters
set station softerror
show station controltable
show station ordertable
show station softerror counters

show station softerror counters

Use the **show station softerror counters** command to display the soft error statistics collected for all the stations on a Token Ring port or for a specific station.

show station softerror counters *mod_num*/*port_num* [*mac_addr*]

Syntax Description

mod_num	Number of the module.
port_num	Number of the port on the module.
mac_addr	(Optional) MAC address of the station for which you want to view the soft error statistics that have been collected. Enter this address in non-canonical (00:11:22:33:44:55) format.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

This command is supported by the Catalyst 5000 family switches.

Examples

This example shows how to display the soft error statistics collected for port 1 of module 3:

```
Console> (enable) show station softerror counters 3/1
Port 3/1:
  Station 00:06:c1:0e:e1:40  Station-Last-NAUN 00:05:77:06:29:b0
    In-Burst-Errors           9
    Out-Burst-Errors          3
    Token-Errors              11
  Station 00:05:77:06:29:b0  Station-Last-NAUN 00:00:00:00:00:00
    Out-Burst-Errors          1
  Station 00:05:77:06:29:b2  Station-Last-NAUN 00:00:00:00:00:00
    Out-Burst-Errors          5
  Station 00:05:77:06:29:b1  Station-Last-NAUN 00:00:00:00:00:00
  Station 00:05:77:06:29:b3  Station-Last-NAUN 00:00:00:00:00:00
  Station 00:05:77:06:29:af  Station-Last-NAUN 00:06:c1:0e:e1:40
Console> (enable)
```

Table 2-74 describes the fields that might be shown in the show station softerror counters command output.

Table 2-74 Show station softerror counters Command Field Descriptions

Field	Description
Port	Port number.
Station	MAC address of the station.
Station-Last-NAUN	MAC address of the station's NAUN.
In-Line-Errors	Number of line errors reported by the station.
Out-Line-Errors	Number of line errors reported in error reporting packets sent by the station's nearest active downstream neighbor.
Internal-Errors	Number of adapter internal errors reported by the station.
AC-Errors	Number of address copied (AC) errors reported in error reporting packets sent by the station's nearest active downstream neighbor.
In-Burst-Errors	Number of burst errors reported by the station.
Out-Burst-Errors	Number of burst errors reported in error reporting packets sent by the station's nearest active downstream neighbor.
Abort-Errors	Number of abort delimiters reported by the station.
Lost-Frame-Errors	Number of lost frame errors reported by the station.
Congestion-Errors	Number of receive congestion errors reported by the station.
Frame-Copied Errors	Number of frame copied errors reported by the station.
Frequency-Errors	Number of frequency errors reported by the station.
Token-Errors	Number of token errors reported by this station.

Related Commands

clear station
clear station counters
set station softerror
show station controltable
show station ordertable
show station softerror config

show summertime

Use the **show summertime** command to display the current status of the summertime feature.

show summertime

Syntax Description

This command has no arguments or keywords.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Examples

This example shows how to display the current status of the summertime feature:

```
Console> show summertime
Summertime is disabled and set to ''
Start : Sun Apr 2 2000, 02:00:00
End   : Sun Oct 29 2000, 02:00:00
Offset: 60 minutes
Recurring: yes, starting at 02:00am of first Sunday of April and ending on 02:00am of
last Sunday of October.
Console>
```

Related Commands

set summertime

show switchacceleration

Use the **show switchacceleration** command to display the current status of the switch acceleration feature.

show switchacceleration *mod_num*

Syntax Description

mod_num	Number of the module.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

This command is supported by the Catalyst 4000 family switches.

Examples

This example shows how to display the current status of the switch acceleration feature:

```
Console> show switchacceleration 1
Module 1 has switch acceleration enabled.
Console>
```

Related Commands

set switchacceleration

show system

Use the **show system** command to display system information.

show system

Syntax Description

This command has no keywords or arguments.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

In a Token Ring module, the values shown for Traffic and Peak are the average of three switching buses.

Examples

This example shows the system status and other information:

```
Console> show system
PS1-Status PS2-Status Fan-Status Temp-Alarm Sys-Status Uptime d,h:m:s Logout
---------- ---------- ---------- ---------- ---------- -------------- ---------
ok         none       ok         off        ok         3,02:08:53     20 min

PS1-Type   PS2-Type   Modem   Baud  Traffic Peak Peak-Time
---------- ---------- ------- ----- ------- ---- -------------------------
WS-C5008A  none       disable  9600   0%      0% Thu Aug 10 1998, 03:22:20

System Name              System Location          System Contact
------------------------ ------------------------ ------------------------
Catalyst 5000            San Jose, CA             Susan x237
Console>
```

Table 2-75 describes the fields in the **show system** command output.

Table 2-75 show system Command Output Fields

Field	Description
PS1-Status	Status of power supply 1 (ok, fan failed, faulty, or none).
PS2-Status	Status of power supply 2 (ok, fan failed, faulty, or none).
Fan-Status	Status of the fan (ok, faulty, or other).
Temp-Alarm	Status of whether the temperature alarm is off or on.
Sys-Status	System status (ok or faulty). Corresponds to system LED status.

Table 2-75 show system Command Output Fields (continued)

Field	Description
Uptime d, h:m:s	Amount of time in days, hours, minutes, and seconds, that the system has been up and running.
Logout	Amount of time after which an idle session is disconnected.
PS1-Type	Part number of the power supply.
PS2-Type	Part number of the redundant power supply, if present.
Modem	Status of the modem status (enable or disable).
Baud	Baud rate to which the modem is set.
Traffic	Current traffic percentage.
Peak	Peak percentage of traffic on the backplane.
Peak-Time	Time stamp when peak percentage was recorded.
System Name	System name.
System Location	System location.
System Contact	System contact information.

Related Commands

set system baud
set system contact
set system location
set system modem
set system name

show tacacs

Use the **show tacacs** command to display the TACACS+ protocol configuration.

show tacacs [**noalias**]

Syntax Description

noalias	(Optional) Keyword that specifies to force the display to show IP addresses, not IP aliases.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Examples

This example shows how to display the TACACS+ protocol configuration:

```
Console> (enable) show tacacs

Login Authentication:  Console Session   Telnet Session
---------------------  ----------------  ----------------
tacacs                 disabled          disabled
radius                 disabled          disabled
kerberos               disabled          disabled
local                  enabled(primary)  enabled(primary)

Enable Authentication: Console Session   Telnet Session
---------------------- ----------------- ----------------
tacacs                 disabled          disabled
radius                 disabled          disabled
kerberos               disabled          disabled
local                  enabled(primary)  enabled(primary)

Tacacs key:
Tacacs login attempts: 3
Tacacs timeout: 5 seconds
Tacacs direct request: disabled

Tacacs-Server                              Status
-----------------------------------------  -------
Console> (enable)
```

This example shows how to display the TACACS+ protocol configuration without aliases:

```
Console> (enable) show tacacs noalias

Login Authentication:  Console Session   Telnet Session
---------------------  ----------------  ----------------
tacacs                 disabled          disabled
radius                 disabled          disabled
kerberos               disabled          disabled
```

```
local                  enabled(primary)  enabled(primary)

Enable Authentication: Console Session   Telnet Session
---------------------- ----------------- ----------------
tacacs                 disabled          disabled
radius                 disabled          disabled
kerberos               disabled          disabled
local                  enabled(primary)  enabled(primary)


Tacacs key:
Tacacs login attempts: 3
Tacacs timeout: 5 seconds
Tacacs direct request: disabled

Tacacs-Server                              Status
-----------------------------------------  -------
Console> (enable)
```

Table 2-76 describes the fields in the **show tacacs** command output.

Table 2-76 show tacacs Command Output Fields

Field	Description
Tacacs login attempts	Number of failed login attempts allowed.
Tacacs timeout	Time in seconds to wait for a response from the TACACS+ server.
Tacacs direct request	Status of whether TACACS+ directed-request option is enabled or disabled.
Tacacs-Server	IP addresses or IP aliases of configured TACACS+ servers.
Status	Primary TACACS+ server.

Related Commands

set tacacs attempts
set tacacs directedrequest
set tacacs key
set tacacs server
set tacacs timeout

show tech-support

Use the **show tech-support** command to display system and configuration information that you can provide to the Cisco Technical Assistance Center (TAC) when reporting a problem.

show tech-support [**module mod_num** | **port mod_num/port_num**] [**vlan vlan_num**] [**config** | **memory**]

Syntax Description

module	(Optional) Keyword that specifies to display data for switching modules.
mod_num	(Optional) Keyword that specifies the number of the module.
port	(Optional) Keyword that specifies to display data for switch ports.
port_num	(Optional) Number of the port for which to display data.
vlan	(Optional) Keyword that specifies to display data for VLANs.
vlan_num	(Optional) Keyword that specifies the number of the VLAN.
config	(Optional) Keyword that specifies to display the configuration of the switch.
memory	(Optional) Keyword that specifies to display memory and processor state data.

Defaults

By default, this command displays the output for technical-support-related **show** commands. Use keywords to specify the type of information to be displayed. If no parameters are specified, the system displays all configuration, memory, module, port, and VLAN data.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

The **show tech-support** command output is continuous; it does not display one screen at a time. To interrupt the output, press **Ctrl-C**.

If you specify the **config** keyword, the **show tech-support** command displays the output of these commands:

- **show config**
- **show flash**
- **show log**
- **show microcode**
- **show module**
- **show port**
- **show spantree active**

- **show system**
- **show test**
- **show trunk**
- **show version**
- **show vlan**

If you specify the **memory** keyword, the **show tech-support** command displays the output of these commands:

- **ps**
- **ps -c**
- **show cam static**
- **show cam system**
- **show flash**
- **show memory buffers**
- **show microcode**
- **show module**
- **show proc**
- **show proc mem**
- **show proc cpu**
- **show system**
- **show spantree active**
- **show version**

If you specify a module, port, or VLAN number, the system displays general system information and information for the component you specified.

Related Commands

show cam
show config
show flash
show log
show microcode
show module
show port
show proc
show spantree
show system
show test
show trunk
show version—switch
show vlan

show test

Use the **show test** command to display the results of diagnostic tests.

show test [*mod_num*]

show test [**diaglevel**]

show test [[**packetbuffer**] [**status**]]

Syntax Description

mod_num	(Optional) Number of the module. If you do not specify a number, test statistics are given for the general system as well as for module 1.
diaglevel	(Optional) Keyword that specifies the diagnostic mode of last bootup and next reset of the switch.
packetbuffer	(Optional) Keyword that specifies packet buffer test schedule information.
status	(Optional) Keyword that specifies status of current packet buffer test.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

The NMP information only applies to module 1; therefore, only the display for module 1 includes the NMP status. If you specify other modules, the NMP status is not displayed.

Systems configured with Supervisor Engine IIIs do not have MII status information displayed in the output. MII status information is displayed for systems configured with Supervisor Engine I or II.

Examples

This example shows how to display general test results for the system and for module 3 on a Catalyst 5000 family or 2926G series switch:

```
Console> show test 3
Environmental Status (. = Pass, F = Fail, U = Unknown)
  PS (3.3V):   .   PS (12V): .   PS (24V):   .   PS1: .     PS2: .
  Temperature: .   Fan:      .

Module 3 : 2-port 10/100BaseTX Supervisor
Network Management Processor (NMP) Status: (. = Pass, F = Fail, U = Unknown)
  ROM:  .   Flash-EEPROM: .   Ser-EEPROM: .   NVRAM: .   MCP Comm: .
  EARL Status :
        NewLearnTest:         .
        IndexLearnTest:       .
```

```
        DontForwardTest:      .
        MonitorTest           .
        DontLearn:            .
        FlushPacket:          .
        ConditionalLearn:     .
        EarlLearnDiscard:     .
        EarlTrapTest:         .

LCP Diag Status for Module 1  (. = Pass, F = Fail, N = N/A)
 CPU         : .    Sprom    : .    Bootcsum : .    Archsum  : .
 RAM         : .    LTL      : .    CBL      : .    DPRAM    : .   SAMBA : .
 Saints      : .    Pkt Bufs : .    Repeater : N    FLASH    : .
 Phoenix     : . TrafficMeter: . UplinkSprom : . PhoenixSprom: .

  MII Status:
  Ports 1  2
  -----------
        N  N

 SAINT/SAGE Status :
  Ports 1  2
  -----------
        .  .

 PHOENIX Port Status :
  Ports 9    17   18   19   20   21   22
      INBAND A->B B->A B->C C->B A->C C->A
  ----------------------------------------
        .    .    .    .    .    .    .

 Packet Buffer Status :
  Ports 1  2
  -----------
        .  .

 PHOENIX Packet Buffer Status :
  Ports INBAND A<->B B<->C A<->C
  ------------------------------
         .     .     .     .

 Loopback Status [Reported by Module 1] :
  Ports  1  2  9
  --------------

 Channel Status :
  Ports  1  2
  -----------

Console>
```

This example shows how to display general test results for a Catalyst 4000 family or Catalyst 2948G switch:

```
Console> show test

Environmental Status (. = Pass, F = Fail, U = Unknown, N = Not Present)
  PS1: .    PS2: N    PS1 Fan: .    PS2 Fan: N    Fan Tray: .
  Temperature: .        Chassis Temperature: 39 degC (102 degF)

Module 1 : 0-port Switching Supervisor
Network Management Processor (NMP) Status: (. = Pass, F = Fail, U = Unknown)
  Control Processor Status:
    DRAM : .     EEPROM : .     FLASH : .     NVRAM : .

  SX1000:
```

```
    Register    : .    Network Memory : .

  Mgmt Port Loopback Status: .
Console>
```

This example shows how to display general test results for module 3 on a Catalyst 4000 family or 2948G switch:

```
Console> show test 3
Module 3: 48 10/100 Base T port Ethernet Card

  (HX,CX)1000:
    Ports 1-8:.    Ports 9-16:.  Ports 17-24:.
    Ports 25-32:.  Ports 33-40:. Ports 41-48:.

10/100BaseTX Loopback Status:
    Ports  1  2  3  4  5  6  7  8  9  10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
    ------------------------------------------------------------------------------
           .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .
    Ports  25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
    ------------------------------------------------------------------------------
```

Table 2-77 describes the possible fields in the **show test** command output.

Table 2-77 show test Command Output Fields

Field	Description
Environmental Status	Test results that apply to the general system environment.
PS (3.3V)	Test results for the 3.3V power supply.
PS (12V)	Test results for the 12V power supply.
PS (24V)	Test results for the 24V power supply.
PS1	Test results for power supply 1.
PS2	Test results for power supply 2.
Temperature	Test results for temperature.
Fan	Test results for the fan.
Module 1	Test results that apply to module 1. The module type is indicated as well.
Network Management Processor (NMP) Status	Test results that apply to the NMP on the supervisor module.
ROM	Test results for ROM.
Flash-EEPROM	Test results for the Flash EEPROM.
Ser-EEPROM	Test results for serial EEPROM.
NVRAM	Test results for the NVRAM.
EARL Status	Fields that display the EARL status information.
NewLearnTest	Test results for NewLearn test (EARL).
IndexLearnTest	Test results for IndexLearn test (EARL).
DontForwardTest	Test results for DontForward test (EARL).
MonitorTest	Test results for Monitor test (EARL).

Table 2-77 show test Command Output Fields (continued)

Field	Description
DontLearn	Test results for DontLearn test (EARL).
FlushPacket	Test results for FlushPacket test (EARL).
ConditionalLearn	Test results for ConditionalLearn test (EARL).
EarlLearnDiscard	Test results for EarlLearnDiscard test (EARL).
EarlTrapTest	Test results for EarlTrap test (EARL).
LCP Diag Status for Module 1	Test results for the specified module.
CPU	Test results for the CPU.
Sprom	Test results for serial PROM.
Bootcsum	Test results for Boot ROM checksum.
Archsum	Test results for archive Flash checksum.
RAM	Test results for the RAM.
LTL	Test results for local-target logic.
CBL	Test results for color-blocking logic.
DPRAM	Test results for dual-port RAM.
SAMBA	Test results for SAMBA chip.
Saints	Test results for SAINT chips.
Pkt Bufs	Test results for the packet buffers.
Repeater	Test results for repeater module.
FLASH	Test results for the Flash.
Phoenix	Test results for the Phoenix.
TrafficMeter	Test results for the TrafficMeter.
UplinkSprom	Test results for the UplinkSprom.
PhoenixSprom	Test results for the Phoenix.
MII Status	Test results for MII ports.
SAINT/SAGE Status	Test results for individual SAINT/SAGE chip.
Phoenix Port Status	Test results for Phoenix ports.
Packet Buffer Status	Test results for individual packet buffer.
Phoenix Packet Buffer Status	Test results for Phoenix packet buffer.
Loopback Status	Test results for the loopback test.
Channel Status	Test results for the channel test.

This example shows how to display test results for module 10 (an FDDI module):

```
Console> show test 10

Module 10 : 2-port MM MIC FDDI
Module 10 : FDDI Module Status: (. = Pass, F = Fail, U = Unknown)
```

```
FDDI Control Processor (FCP) Status:
  ROM:  .   RAM:  .   Flash-EEPROM: .   Dpram: .

  Switch Memory Status:
  RAM:  .   Cache-SRAM: .    DmpCom: .    Loadgen: .

FDDI Status:
  Port A Access:   .  Port B Access:   .
  Port A Loopback: .  Port B Loopback: .
  MAC Access:      .  MAC Buffer R/W:  .
  MAC Internal LB: .  MAC External LB: .
  CAM:  . . . .

Data Movement Processor (DMP) Status:
  Flash-EEPROM: .   RAM: .  SRAM: . COMM: .

  Switch Memory Status:
  RAM: .  Cache-SRAM: .

FDDI Status:
  MAC Access:            .   MAC Buffer R/W:        .
  MAC Internal LB:       .   MAC External LB:       .  LoadGen:.
  FBIGA Access:          .   FBIGA->MAC Buffer R/W: .
  FBIGA->MAC TxDMA:      .   FBIGA->MAC RxDMA:      .
  FBIGA->MAC Internal LB:.   FBIGA->MAC External LB:.  LoadGen:.

Bus Interface Status:
  SBIGA Access:          .   SBIGA->SAGE RxDMA:     .  SBIGA<-SAGE TxDMA:.
  Biga Loop Access:      .   Biga Loop Rx:          .  Biga Loop Tx:     .

LCP Diag Status for Module 10  (. = Pass, F = Fail, N = N/A)
 CPU         : .    Sprom    : .    Bootcsum : .    Archsum  : N
 RAM         : .    LTL      : .    CBL      : .    DPRAM    : .   SAMBA : N
 Saints      : .    Pkt Bufs : .    Repeater : N    FLASH    : N

 SAINT/SAGE Status :
  Ports 1
  --------
        .

 Packet Buffer Status :
  Ports 1
  --------
        .

 Loopback Status :
  Ports 1
  --------
Console>
```

Table 2-78 describes the possible fields in the **show test** command output for an FDDI module.

Table 2-78 show test Command Output Fields (FDDI)

Field	Description
Module 10	Fields that indicate subsequent test results apply to module 10. The module type is indicated as well.
FDDI Control Processor (FCP) Status	Fields that indicate FCP status.
ROM	Test results for the ROM.

Table 2-78 show test Command Output Fields (FDDI) (continued)

Field	Description
RAM	Test results for the RAM.
Flash-EEPROM	Test results for the Flash EEPROM.
Dpram	Test results for the dynamic PRAM.
Switch Memory Status	Fields that indicate the switch memory status.
RAM	Test results for the RAM.
Cache-SRAM	Test results for the queue SRAM.
DmpCom	Test results for communication block.
Loadgen	Test results for MAC LoadGen test.
FDDI Status	Fields that indicate FDDI status.
Port A Access	Test results for port A PHY register test.
Port B Access	Test results for port B PHY register test.
Port A Loopback	Test results for port A PHY loopback test.
Port B Loopback	Test results for port B PHY loopback test.
MAC Access	Test results for MAC register test.
MAC Buffer R/W	Test results for MAC buffer memory test.
MAC Internal LB	Test results for MAC internal loopback test.
MAC External LB	Test results for MAC external loopback test.
CAM	Test results for the CAM.
Data Movement Processor (DMP) Status	Fields that indicate the DMP status.
Flash-EEPROM	Test results for the Flash EEPROM.
RAM	Test results for the RAM.
SRAM	Test results for the SRAM test.
COMM	Test results for communication block.
Switch Memory Status	Fields that indicate switch memory status.
RAM	Test results for the RAM.
Cache-SRAM	Test results for the queue SRAM.
FDDI Status	Fields that indicate FDDI status.
MAC Access	Test results for MAC register test.
MAC Buffer R/W	Test results for MAC buffer memory test.
MAC Internal LB	Test results for MAC internal loopback test.
MAC External LB	Test results for MAC external loopback test.
LoadGen	Test results for MAC LoadGen test.
FBIGA Access	Test results for FBIGA register test.
FBIGA->MAC Buffer R/W	Test results for FBIGA buffer memory test.
FBIGA->MAC TxDMA	Test results for FBIGA transmit test.

Table 2-78 show test Command Output Fields (FDDI) (continued)

Field	Description
FBIGA->MAC RxDMA	Test results for FBIGA receive test
FBIGA->MAC Internal LB	Test results for FBIGA internal loopback test.
FBIGA->MAC External LB	Test results for FBIGA external loopback test.
LoadGen	Test results for FBIGA LoadGen test.
Bus Interface Status	Fields that indicate bus interface status.

This example shows how to display diagnostic mode information for the last bootup and next reset of the switch:

```
Console> show test diaglevel
Diagnostic mode at last bootup : complete
Diagnostic mode at next reset  : complete
Console>
```

This example shows how to display packet buffer schedule information:

```
Console > (enable) show test packetbuffer
Packet buffer test            : enabled
Packet buffer test schedule   : continuous
Console > (enable)
```

show time

Use the **show time** command to display the current time of day in the system clock.

show time

Syntax Description

This command has no keywords or arguments.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Examples

This example shows how to display the current time:

```
Console> show time
Thu Apr 15 1999, 02:54:50
Console>
```

The output shows the day of the week, month, day, year, hour, minutes, and seconds.

Related Commands

set time

show timezone

Use the **show timezone** command to display the current time zone and offset.

show timezone

Syntax Description

This command has no arguments or keywords.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Examples

This example shows how to display the current time zone and offset:

```
Console> show timezone
Timezone set to 'pst', offset from UTC is -8 hours
Console>
```

Related Commands

clear timezone
set timezone

show tokenring

Use the **show tokenring** command to display the current values of various Token Ring-specific configuration parameters.

show tokenring

Syntax Description

This command has no arguments or keywords.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

This command is supported by the Catalyst 5000 family switches.

This command is supported on Token Ring modules only.

Examples

This example shows how to display the Token Ring settings for port 4 on module 3:

```
Console> show tokenring 3/4
Ports   Crf/Brf      Ring#    Port-Mode        Early-Token    AC-bits
-----   ---------    -----    -------------    -----------    --------
 3/4    1003/0       3276     auto             enabled        disabled

Ports   Prior-Thresh    Min-Xmit    MAC-Address
-----   ------------    --------    -----------------
 3/4    3               4           00:05:77:01:bb:11

Ports   Cfg-Loss-Thresh  Cfg-Loss-Intvl  Cfg-Loss-Count  Cfg-Loss-Reason
-----   ---------------  --------------  --------------  ---------------
 3/4    8                1               0               none
Console>
```

Table 2-79 describes the fields in the **show tokenring** command output.

Table 2-79 show tokenring Command Output Fields

Field	Description
Ports	Module and port number.
Crf/Brf	TrCRF to which a port is assigned and the parent BRF associated with the CRF.
Ring	Logical ring number (in hexadecimal format) assigned to the TrCRF. Possible values are auto and 01 through FFF.

Table 2-79 show tokenring Command Output Fields (continued)

Field	Description
Port-Mode	Operation mode of the port. Possible values are auto, fdxcport, fdxstation, hdxcport, hdxstation, passive, or riro. Only FDX and HDX modes are detected automatically. The operation mode of riro applies to fiber ports only.
Early-Token	Status of whether the port is enabled for early token release. Possible values are yes and no; the default is yes. Early token release is valid for 16-Mbps media only. If the early token release is enabled and the media speed is 4 Mbps, the switch forces early token release to be disabled.
AC-bits	Status of whether the AC-bits should be set unconditionally on repeated source-routed LLC frames. These include source-routed frames with RIF length greater than 2 and all Spanning-Tree Explorer and All-Routes Explorer frames; the default is no. If you set this parameter to no, the setting of these bits is based on whether the frame was actually forwarded.
Prior-Thresh	Highest Token Ring frame priority in the Frame Control field of the frame that the switch should place in the low-priority transmit queue. Possible values are 0 through 7; the default is 3.
Min-Xmit	Minimum reservation priority used when requesting a token on a busy ring. Possible values are 0 through 6; the default is 4.
MAC-Address	MAC address of the port.
Cfg-Loss-Thresh	Value used to control the number of configuration losses that can occur within the configuration loss sampling interval. Configuration loss occurs when a port completes a connection, allows data traffic to flow, and subsequently closes. When the threshold is exceeded, the port is disabled and you must enable it via this panel or an SNMP manager. Possible values are 1 through 100; the default is 8.
Cft-Loss-Intvl	Sampling period (in minutes) for measuring the number of configuration losses. Possible values are 1 through 60; the default is 1.
Cfg-Loss-Count	Number of Token Ring configuration loss events after the port has completed the join process and then lost communication.
Cfg-Loss-Reason	Error code of the latest configuration loss event. Possible values are None, Wire Fault, Lobe Test Fail, TKP Frame Error, Heart Beat Fail, TXI New Station, TXI Prot Error, Speed Error, or Remove Received.

Related Commands

show port
show module

show top

Use the **show top** command to start the TopN process.

show top [*N*] [*metric*] [**interval** *interval*] [*port_type*] [**background**]

Syntax Description

N	(Optional) Number of ports displayed. Valid values are 1 to a maximum number of physical ports.
metric	(Optional) Port statistic to sort on. Valid values are as follows: util—utilization bytes—in/out bytes pkts—in/out packets bcst—in/out broadcast packets mcst—in/out multicast packets errors—in errors overflow—buffer overflow
interval	(Optional) Keyword that specifies duration of sample (in seconds).
interval	(Optional) Number of seconds for sample. Valid values include 0, 10...999 seconds. If the value is 0, the N topmost ports by absolute counter values are displayed.
port_type	(Optional) Type of switch ports to use for report. Valid values are as follows: all—all port types are used eth—All Ethernet port types are used 10e—10Mbps Ethernet ports types are used fe—Fast Ethernet port types are used ge—Gigabit Ethernet port types are used tr—Token Ring port types are used fddi—FDDI port types are used
background	(Optional) Keyword that specifies the TopN report not to print to the screen when the task is done. Instead, send a notification out when the reports are ready.

Defaults

The defaults are as follows:

- Number of ports displayed is 20.
- Port statistics to report on is util.
- Sample duration is 30 seconds.
- Switch port types is all.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

You can terminate TopN processes with the **background** option specified only by using the **clear top** [*report_num*] command. You cannot terminate TopN processes by pressing **Ctrl-C**.

TopN reports with the **background** option specified are not displayed on the screen unless you enter a **show top report** [*report_num*] command.

If you do not specify the **background** option, the output TopN results are dumped to the screen when the task is done, and the results are printed one time only and are not saved.

You can terminate TopN processes (without the **background** option) by pressing **Ctrl-C** in the same Telnet/console session, or by entering a **clear top** [*report_num*] command from a separate Telnet/console session. The prompt is not printed before the TopN report is displayed completely. Other commands are blocked until the report has displayed.

The tr and fddi *port_type* options are not supported by Catalyst 4000 family and 2948G switches.

Examples

This example shows how to start the TopN process with the **background** option:

```
Console> show top 10 util interval 10 background
03/21/1999,14:05:38:MGMT-5: TopN report 2 started by telnet/172.20.22.7/.
Console>
03/21/1999,14:15:38:MGMT-5: TopN report 2 available.
```

This example shows how to start the TopN process without the **background** option:

```
Console> show top 10 util interval 10
Start Time:     04/09/1999,01:12:48
End Time:       04/09/1999,01:12:58
PortType:       all
Metric:         util
Port  Band- Uti Bytes                Pkts        Bcst        Mcst        Error Over
      width  %  (Tx + Rx)            (Tx + Rx)   (Tx + Rx)   (Tx + Rx)   (Rx)  flow
----- ----- --- -------------------- ----------- ----------- ----------- ----- ----
3/1    100   0                13824           9           0           0    11    0
6/48    10   0                    0           0           0           0     0    0
6/47    10   0                    0           0           0           0     0    0
6/46    10   0                    0           0           0           0     0    0
6/45    10   0                    0           0           0           0     0    0
Console>
```

Related Commands

clear top
show top

show top report

Use the **show top report** command to list all TopN processes and specific TopN report.

show top report [*report_num*]

Syntax Description

report_num	(Optional) TopN report number for each process.

Defaults

This command has no default setting.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

If you do not specify *report_num*, this command lists all the active TopN processes and all the available TopN reports for the switch. Each process is associated with a unique report number. All TopN processes (both with and without background option) are shown in the list.

An asterisk displayed after the pending status field indicates that it is not a background TopN and the results are not saved.

Examples

This example shows how to display all the active TopN processes and all the available TopN reports for the switch:

```
Console> show top report
Rpt  Start time          Int N   Metric      Status   Owner (type/machine/user)
---  ------------------- --- --- ----------  -------- -------------------------
  1  03/21/1999,11:34:00 60  20  Tx/Rx-Bytes done     telnet/172.20.22.7/
  2  03/21/1999,11:34:08 600 10  Util        done     telnet/172.34.39.6/
  4  03/21/1999,11:35:17 300 20  In-Errors   pending  Console//
  5  03/21/1999,11:34:26 60  20  In-Errors   pending* Console//
Console>
```

This example shows an attempt to display a TopN report 5 (shown in the first example) that is still in pending status:

```
Console> show top report 5
Rpt  Start time          Int N   Metric     Status   Owner (type/machine/user)
---  ------------------- --- --- ---------- -------- -------------------------
  5  03/21/1999,11:34:26 60  20  In-Errors   pending* Console//
Console>
```

This example shows how to display the available TopN report 2 (shown in the first example) for the switch:

```
Console> show top report 2
Start Time:     03/21/1999,11:34:00
End Time:       03/21/1999,11:34:33
PortType:       all
Metric:         util
Port  Band- Uti Tx/Rx-bytes          Tx/Rx-pkts Tx/Rx-bcst Tx/Rx-mcst In-  Buf-
      width  %                                                      err  Ovflw
----- ----- --- -------------------- ---------- ---------- ---------- ---- -----
 /15  100   88  98765432109876543210 9876543210 98765      12345      123  321
 5/48 10    75  44532                5389       87         2          0    0
 5/47 10    67  5432                 398        87         2          0    0
 5/46 10    56  1432                 398        87         2          0    0
 5/45 10    54  432                  398        87         2          0    0
 5/44 10    48  3210                 65         10         10         15   5
 5/43 10    45  432                  5398       87         2          2    0
 5/42 10    37  5432                 398        87         2          0    0
 5/41 10    36  1432                 398        87         2          0    0
 5/40 10    14  2732                 398        87         2          0    0
Console>
```

Related Commands

clear top
show top