Monitoring the Network With Out-of-Band Management

This chapter explains how to monitor the Catalyst 3200 using Out-of-band ("outside" of the network) management, through a directly connected console. To use SNMP (in-band, "through the network" management), see Chapter 9, "Monitoring Port Activity with Application Software."

This chapter covers the following topics:

- Navigating within the Menus
- Statistics Menu
  - Switch Statistics
  - Port Statistics
  - Address Tables
  - Spanning Tree Bridge Information
  - Current Spanning Tree Information
  - Virtual LAN (VLAN) Statistics
  - IEEE 802.3 Statistics

The information on the screens in this chapter is typically for monitoring purposes only. This information is usually the result of input data from the configuration menus (see Chapter 7, "Console Configuration." The specifications presented on the Statistic Screens normally can not be modified.

Information within the Statistics menus are updated (screens are refreshed) every 5 seconds.
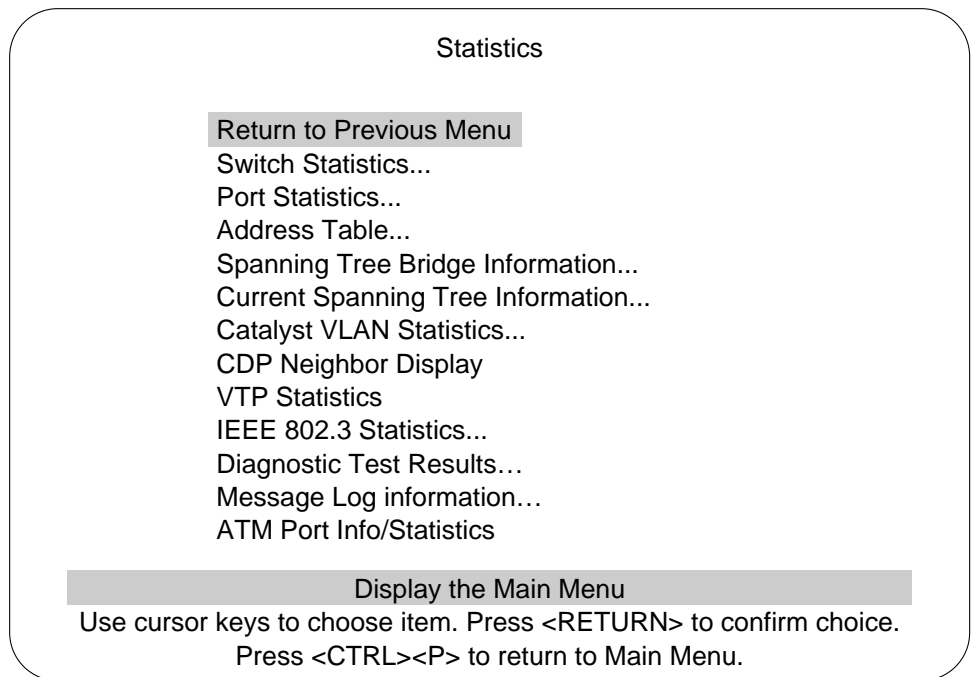
Navigating Within the Menus

This section explains how to access the menus, and the following section describes the information and sub-menus of the Statistics Menu.

Unless specified differently, all the screens or menus are accessed in the following way: use the ARROW keys (also referred to as cursor keys) to move the highlight over the selections that you want to access, and then press the RETURN key:

- A new screen of information is displayed if the heading has three dots after it.

- A function is performed if the selection is a command, such as a "Reset."

Statistics Menu

```
                              Statistics


             Return to Previous Menu
             Switch Statistics...
             Port Statistics...
             Address Table...
             Spanning Tree Bridge Information...
             Current Spanning Tree Information...
             Catalyst VLAN Statistics...
             CDP Neighbor Display
             VTP Statistics
             IEEE 802.3 Statistics...
             Diagnostic Test Results…
             Message Log information…
             ATM Port Info/Statistics

                       Display the Main Menu
          Use cursor keys to choose item. Press <RETURN> to confirm choice.
                  Press <CTRL><P> to return to Main Menu.
```

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Statistics Menu Headings

The following is a brief explanation of menu headings in the Statistics screen. More information about these menus, their screens, and sub-menus, follows this list. Select a heading, at the console, to view the corresponding menu.

Switch Statistics

Displays information about switch utilization.

Port Statistics

Displays information about a particular port.

Address Table

Port and system address tables.

Spanning Tree Bridge Information

Displays information about the current Spanning Tree configuration.

Current Spanning Tree Information

Displays the current Spanning Tree port information.

Catalyst VLAN Statistics

An explanation of Catalyst VLANs is in the Spanning Tree Protocol section in Chapter 7, "Console Configuration."

CDP Neighbor Display

An explanation of Cisco Discovery Protocol (CDP) is in the Spanning Tree Protocol section in Chapter 7, "Console Configuration."

VTP Statistics

An explanation of VTP is in the section ATM Configuration (VTP) in Chapter 7, "Console Configuration."

IEEE 802.3 Statistics

Displays transmission error information for individual ports.

Diagnostic Test Results

Displays a screen showing results of diagnostic tests and any errors that might have occurred during diagnostics.

Message Log Information

Displays any messages recorded by the system.

ATM Port Info/Statistics

An explanation of ATM is in the Spanning Tree Protocol section in Chapter 7, "Console Configuration."

Switch Statistics Screen

The Switch Statistics screen shows statistics and information about stations connected to the Catalyst 3200.

Note References to "frames" in this menu refer to the frames that are handled by the CPU within the Catalyst 3200. The Port Statistics screen (described in the next section) refers to frames handled by the ports on the Catalyst 3200.

```
                        Switch Statistics

    Return to Previous Menu
    System Up Time                 0 Hr, 6 Min, 52 Sec
    Board Temperature                         Normal
    Currently Active Stations                     64
    Largest Number of Stations                    64
    Maximum Number of Stations                 10000
    Frames Transmitted                             0
    Frames Received                                0
    Error Frames Received                          0
    Frames Lost                                    0
    Short Frames                                   0
    Oversize Frames                                0
    Buffer Overruns                                0
    Pending Send Requests                          0
    Dropped Frames                                 0
    Maximum Hash Chain                             0
    Hash Table Full                                0
    Reset Statistics                               0

         Display statistics for switch and for ports
         Press <CTRL><P> to return to Main Menu.
```

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Box (number)

Pertains to the Catalyst 3200 with that Box number when the Catalyst 3200 is part of a stack.

System Up Time

Length of time since the last reset or power cycle.

Board Temperature

Indicates whether the Catalyst 3200 is operating at normal or unacceptably high (over 122°F or 50°C) temperatures.

Currently Active Stations

Number of entries in the address table, representing the number of currently active stations (MAC addresses), or nodes, on all ports of the Catalyst 3200.

Largest Number of Stations

The most stations (MAC addresses) ever active on all ports at one time since the last reset or power cycle.

Maximum Number of Stations

This is the most stations (MAC addresses) the Catalyst 3200 can support simultaneously. This is different from the Maximum Number of Stations value that appears in the Port Statistics Menu, which is the number of addresses for a specific port. The amount of DRAM memory installed determines the maximum amount:

- 4MB DRAM = 10,000 stations
- 8MB DRAM = 20,000 stations

Frame Count Headings

The headings in the Switch Statistics menu, after the Maximum Number of Stations, are explained in the list below. Each of the headings has an associated numerical value that is presented on the same line and to right of the heading on the screen.

This value is the number of times there has been an occurrence of that particular heading within the CPU of the Catalyst 3200.

- Frames Transmitted

  Number of frames transmitted by the Catalyst 3200 CPU.

- Frames Received

  Number of frames received by the CPU.

- Error Frames Received

  Number of frames received (by the CPU) that were corrupted or have CRC errors.

- Frames Lost

  Number of frames dropped (by the CPU) due to exceeding the capacity of the software buffers.

- Short Frames

  Number of frames less than 64 bytes.

- Oversize Frames

  Number of frames greater than 1518 bytes.

- Buffer Overruns

  Number of frames dropped by the CPU hardware due to exceeding the processing capacity.

- Pending Send Requests

  Number of software transmitted packets that are waiting for queues to hardware.

- Dropped Frames

  Number of frames that were dropped due to exceeding CPU hardware processing limits.

- Maximum Hash Chain

  Largest number of MAC addresses that have hashed to same location in look-up tables. Used for technical system evaluation and troubleshooting. (The hashing function is a technical procedure used by qualified persons to evaluate system performance.)

- Hash Table Full

  Number of times the hash table reached capacity. Used for technical system evaluation and troubleshooting.

- Reset Statistics

  Resets the switch statistics on this screen.

Port Statistics Screen

Use the Port Statistics screen to view detailed information about a particular port.

```
                      Port 1 Statistics Table

    Return to Previous Menu
    Local Frames Received
    Frames Switched by Hardware                      350
    All Forwarded Frames                             200
    Number of Learned Stations                       213
    Frames Delivered For Learning                      5
    Broadcast Frames Received                         11
    Local Address Entries                            97
    Remote Address Entries                           30
    Currently Active Stations                        20
    Largest Number of Stations                       50
    Maximum Number of Stations                     1790
    Hash Bucket Overflows                             0
    Hash Table Overflows                             0
    Octets Received                               68784
    Octets Transmitted                            5460
    Time Since Last Reset            1 Hr. 56 Min, 5 Sec
    Reset Statistics
                 Return to Previous Menu
    Use cursor keys to choose item. Press <RETURN> to confirm choice.
              Press <CTRL><P> to return to Main Menu.
```

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Local Frames Received

Number of frames that are local to this segment (not forwarded).

Frames Switched by Hardware

Number of frames received on this port and forwarded by the Catalyst 3200 hardware to
another port.

All Forwarded Frames

Number of broadcast, multicast, and unicast frames switched by the hardware or forwarded by the software.

Number of Learned Stations

Number of stations that frames were received for, and then forwarded to the system module for processing, because the source or destination station address was not in the port's forwarding table.

Frames Delivered for Learning

Number of frames received on this port and forwarded to the system module for processing. For example: frames for which the address was unknown, PING frames, or SNMP traffic.

Broadcast Frames Received

Number of Broadcast frames received on this port.

Local Address Entries

Number of MAC addresses on this port that belong to the local segment.

Remote Address Entries

Number of MAC addresses on this port that belong to another segment.

Currently Active Stations

Sum of local and remote MAC addresses on this port.

Largest Number of Stations

Largest number of MAC addresses active since the last reset of the Catalyst 3200 or port.

Maximum Number of Stations

Maximum number of MAC addresses that the port can support simultaneously.

Hash Bucket/Table Overflows

Informational results of hashing. Used for technical system evaluation and troubleshooting.

Octets Received/Transmitted

Informational results of octet handling. Used for technical system evaluation and troubleshooting.

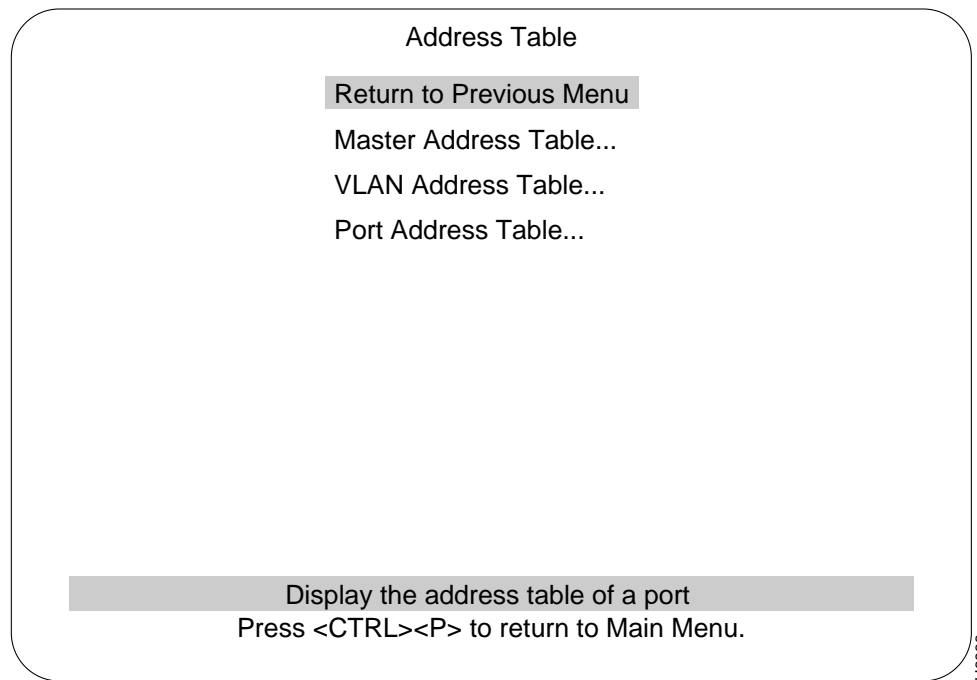## Time Since Last Reset

Hours, minutes, and seconds since the port traffic counters were last reset.

Reset Statistics

Resets the traffic counters for this port.

Address Tables Menu

Use the Address Table menu to select which address table statistics you want to view.

```
                        Address Table

            Return to Previous Menu

            Master Address Table...

            VLAN Address Table...

            Port Address Table...




            Display the address table of a port
        Press <CTRL><P> to return to Main Menu.
```
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The following list contains brief explanations of the menus for the Address Table screen. More information on each of these menus, their screens, and submenus follows this list.

Master Address Table

Displays a table of station addresses from all ports known to the Catalyst 3200.

VLAN Address Table

Displays the VLAN address table for all ports in a VLAN.

Port Address Table

Displays the address table for a selected port.

Master Address Table

The Master Address Table contains MAC addresses of all ports known to the Catalyst 3200. The table can contain up to 6,000 entries with standard memory, or up to 10,000 entries with optional expanded memory.

```
                           Master Address Table
  Address              Local Port           Ports (filtered/secured ports highlighted)

  008024 017020        Switch Base Adr      1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
                                            21
  0180C2 000001        VLAN 0               1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
                                            21
  0180C2 000000        STP                  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
                                            21
  008024 017021        Multicast            1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
                                            21
  008024 017022        Multicast            1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
                                            21
  008024 017023        Multicast            1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
                                            21
  008024 017024        Multicast            1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
                                            21
  Return               More                 Search
                       Return to Previous Menu
        Use cursor keys to choose item. Press <RETURN> to confirm choice.
                 Press <CTRL><P> to return to Main Menu.
```

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Address

MAC address of a node.

Local Port

Describes the type of address or association of the address with the listed port:

This Switch: System's own MAC Address

- Multicast: General multicast packet

- Broadcast: General broadcast packet

- Filtered: Filtered packet address

- STP Reserved: Spanning tree address reserved for future 802.1d standardization

- Spanning Tree STP Multicast: BPDU (Bridge Protocol Data Units –"Hello Packets") multicast packet reserved for the port

- STP Port xx: Spanning tree address reserved for the port

- Switch Base Adr: MAC address for the Catalyst 3200

- Domain Adrs: MAC address for that VLAN

Ports

The ports whose address tables include this MAC address; filtered ports are highlighted.

More

Refreshes a one-page table or displays subsequent entries on a larger table.

Search

Prompts you to enter the MAC address of a node and the ports whose address tables you want to search, then displays the ports whose address tables contain the MAC address.

VLAN Address Table

The VLAN Address Table contains MAC addresses of all ports known to the Catalyst 3200 within a selected VLAN.

```
                    VLAN Address Table - default
Address            Local Port        Ports (filtered/secured ports highlighted)

008024 017020      3                 5 6 7
0180C2 000007      STP Multicast     5 6 7
0180C2 000056      STP Reserved      8 9 10
008024 0423A0       3                1 2 3 4 5 6 7 8 9 10 11 12 13 14
008024 017021      VLAN              1 2 3 4
008024 017022      2                 2
008024 017023      unknown           3
008024 017024      STP Port 4        4
0180C2 000000      unknown           5 6 7
0180C2 000006      1                 8 9 10
0180C2 000001      Swtch Base Adr    1 2 3 4 5 6 7 8 9 10 11 12 13


  Return               More                   Search


                   Return to Previous Menu
     Use cursor keys to choose item. Press <RETURN> to confirm choice.
              Press <CTRL><P> to return to Main Menu.
```

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Address

MAC address of a node.

Local Port

Describes the type of address or association of the address with the listed port:

- Multicast: General multicast packet

- Broadcast: General broadcast packet

- Filtered: Filtered packet address

- STP Reserved: Spanning Tree address reserved for future 802.1d standardization

- STP Multicast: BPDU multicast packet reserved for the port (Hello packet)

- STP Port xx: Spanning Tree address reserved for the port

- Switch Base Adr: MAC address for the Catalyst 3200

- VLAN Adrs: MAC address for that VLAN

Ports

The ports whose address tables include this MAC address; filtered ports are highlighted.

More

Refreshes a one-page table or displays subsequent entries on a larger table.

Search

Prompts you to enter the MAC address of a node you want to search. The address table display is refreshed starting from the matching address entry.

The Port Address Table displays the MAC addresses of nodes connected to a specific port. The table includes MAC addresses from which this port has received packets or octets, to which it has sent packets or octets. It can contain up to 1,700 entries.

Port Address Table

```
┌─────────────────────────────────────────────────────────────────────┐
│           Box 1 Port 3 Address Table - Port is Forwarding             │
│                                                                       │
│   Address            Local Port        SrcPkt  DstPkt   SrcOctet  DstOctet │
│                                                                       │
│   008024 017020      Switch Base Adr      0       0         0         0    │
│   0180C2 000000      STP Multicast        0       0         0         0    │
│   0180C2 000002      filtered             0       0         0         0    │
│   0180C2 000004      1                    0       0         0         0    │
│   0180C2 000006      Domain 1             0       0         0         0    │
│   0180C2 000008      unknown              0       0         0         0    │
│   0180C2 00000E      Multicast            0       0         0         0    │
│   FFFFFF FFFFFF      Broadcast            0       0         0         0    │
│                                                                       │
│                                                                       │
│      Return            More               Search                      │
│                                                                       │
│                                                                       │
│                    Return to Previous Menu                            │
│      Use cursor keys to choose item. Press <RETURN> to confirm choice.│
│             Press <CTRL><P> to return to Main Menu.                   │
└─────────────────────────────────────────────────────────────────────┘
```

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Address

MAC address of a node. Ports that belong to an EtherChannel are designated as either primary or secondary.

Local Port

Describes the association of the address with the listed port or the type of address:

- Multicast: General multicast packet

- Broadcast: General broadcast packet

- Filtered: Filtered packet address

- STP Reserved: Spanning Tree address reserved for future 802.1d standardization

- STP Multicast: BPDU multicast packet reserved for the port (Hello packet)

- STP Port xx: Spanning Tree address reserved for the port

- Switch Base Adr: MAC address for the Catalyst 3200

- VLAN Adrs: MAC address for that VLAN

Note   The following statistics, Source packets and octets, and Destination packets and octets, can change values when Catalyst 3200 units join or leave a stack. The amount will vary depending on the relationship between the unit's register and the contents of the Stack's register.

The **Source** (coming from a node on the network) packet/octets are counted as they are received on a Catalyst 3200 port.

The **Destination** (going to a node on the network) packet/octets are counted as they are sent from a Catalyst 3200 port.

Src/Dst Pkt

Number of packets received and transmitted.

Src/Dst Octet

Number of octets received and transmitted.

More

Refreshes a one-page table or displays subsequent entries on a larger table.

Search

Prompts you to enter the MAC address of a node you want to search. The address table display is then refreshed starting from the matching address entry.

Spanning Tree Bridge Information

The Spanning Tree Bridge Information screen is displayed from the main Statistics menu. Its information relates to the Spanning tree configuration. The settings on this screen cannot be changed.

```
                    Spanning Tree - default

     Return

     Participate in Spanning Tree        No
     Switch Priority                     32768
     Switch Hello Time                   2
     Switch Maximum Message Age          20
     Switch Forward Delay                15




                   Return to Previous Menu
   Use cursor keys to choose item. Press <RETURN> to confirm choice.
            Press <CTRL><P> to return to Main Menu.
```
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Participate in Spanning Tree

Whether the Catalyst 3200 is participating in the Spanning Tree.

Switch Priority

The priority value for this Catalyst 3200. The Catalyst 3200 with the lowest priority value in a Spanning Tree becomes the root bridge.

Switch Hello Time

The time, in seconds, between configuration messages when this switch is root.

Switch Maximum Message Age

The maximum message age advertised when this switch is root.

Switch Forward Delay

The time, in seconds, the switch waits between transitions from listening to learning, and from learning to forwarding.

Current Spanning Tree Information Screen

Use the Current Spanning Tree Information screen to view a summary of all Spanning Tree information for each port. Information cannot be changed on this screen. When the Spanning Tree is turned off—that is, you have selected No for the "Participate in Spanning Tree" prompt (at the Configuration menus)—this menu will only display the headers with no information below them.

When the Catalyst 3200 is configured with EtherChannels, Spanning Tree Hello packets use the primary port of the EtherChannel.

```
╭────────────────────────────────────────────────────────────────────────╮
│               Current Spanning Tree Information - default                │
│                                                                          │
│                                                                          │
│   Port    Port   Port  Desig      Designated         Desig   #Topo   Time Since   │
│    ID     Cost   STS   Cost    Switch/Bridge ID     Port ID   Chgs   Last Change  │
│   128.1   100    FWD    0     32768.00802401375F     128.1     1      0:01:58    │
│   128.2   100    FWD    0     32768.00802401375F     128.2     1      0:01:58    │
│   128.3   100    FWD    0     32768.00802401375F     128.3     1      0:01:58    │
│   128.4   100    FWD    0     32768.00802401375F     128.4     1      0:01:58    │
│   128.5   100    FWD    0     32768.00802401375F     128.5     1      0:01:58    │
│   128.6   100    FWD    0     32768.00802401375F     128.6     1      0:01:58    │
│   128.7   100    FWD    0     32768.00802401375F     128.7     1      0:01:58    │
│   128.8   100    FWD    0     32768.00802401375F     128.8     1      0:01:58    │
│   128.9   100    FWD    0     32768.00802401375F     128.9     1      0:01:58    │
│   128.10  100    FWD    0     32768.00802401375F     128.10    1      0:01:58    │
│   128.11  100    FWD    0     32768.00802401375F     128.11    1      0:01:58    │
│   128.12  100    FWD    0     32768.00802401375F     128.12    1      0:01:58    │
│   128.13  100    FWD    0     32768.00802401375F     128.13    1      0:01:58    │
│   128.14  100    FWD    0     32768.00802401375F     128.14    1      0:01:58    │
│   128.15  100    FWD    0     32768.00802401375F     128.15    1      0:01:58    │
│              Return                                                       │
│                         Return to Previous Menu                          │
│         Use cursor keys to select action. Press <RETURN> to confirm choice. │
│                 Press <CTRL><P> to return to Main Menu.                  │
╰────────────────────────────────────────────────────────────────────────╯
```

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Port ID

The port ID, used to determine the role of the port in the Spanning Tree. The port ID is expressed in the form *<port priority>.<port number>*. All ports in an EtherChannel have the same ID number.

Port Cost

The *Port Path Cost* for each port on the switch. The Port Path Cost helps determine the role of the port in the Spanning Tree network.

Port STS

Current state of this port within the Spanning Tree: DSB (disabled), BLK (blocked), LSN (listening), LRN (learning), FWD (forwarding), or Link Down.

DSB – the port has been manually disabled or failed to pass diagnostics.

BLK – the port receives STP BPDUs, but will not forward any packets.

LSN – STP perceives that the port should no longer be blocked because of some topology change. It transmits BPDUs, but forwards no packets.

LRN – if after transmitting BPDUs for a set amount of Forward Delay seconds, no contradictory information is learned, the port address table is cleared and addresses begin to be learned and then forwarding begins. All ports that are going to change states from blocking to forwarding will have done so after:

MaxMessAge + (2 * Switch Forward Delay)

FWD – port begins forwarding packets normally.

Link Down – see the next section, "Virtual Switch Statistics Menu," for Link Down information.

The rules that define the state of the port are as follows:

- A port on a network segment with no other bridge or switch is always forwarding.

- If two ports on a switch are connected to the same network segment and there is no other bridge or switch, the port with the smaller ID is forwarding and the other is blocked.

- When the switch is booted, all ports are blocked initially, then some of them change to a different state: listening, learning, or forwarding, in that order. To see the change in states you must repeatedly exit from this menu, then select it again.

Designated Cost

The cost for a packet to travel from this port to the root in the current Spanning Tree configuration. The slower the media, the higher the cost.

Designated Switch/Bridge ID

Priority and MAC address of the device through which this port has determined it must communicate with the root of the Spanning Tree.

Designated Port ID

Port on the designated device through which this switch will communicate with the root of the Spanning Tree. This information is useful if the Catalyst 3200 is the designated bridge on one or more network segments. (Port ID is *<port priority>.<port number>*.)

Topo Changes

Number of topology changes, which is the number of times the port has entered the forwarding state plus the number of times the port has made the transition from forwarding to blocking. The counter is reset when the switch is reset or the Spanning Tree is turned on: whichever is most recent.
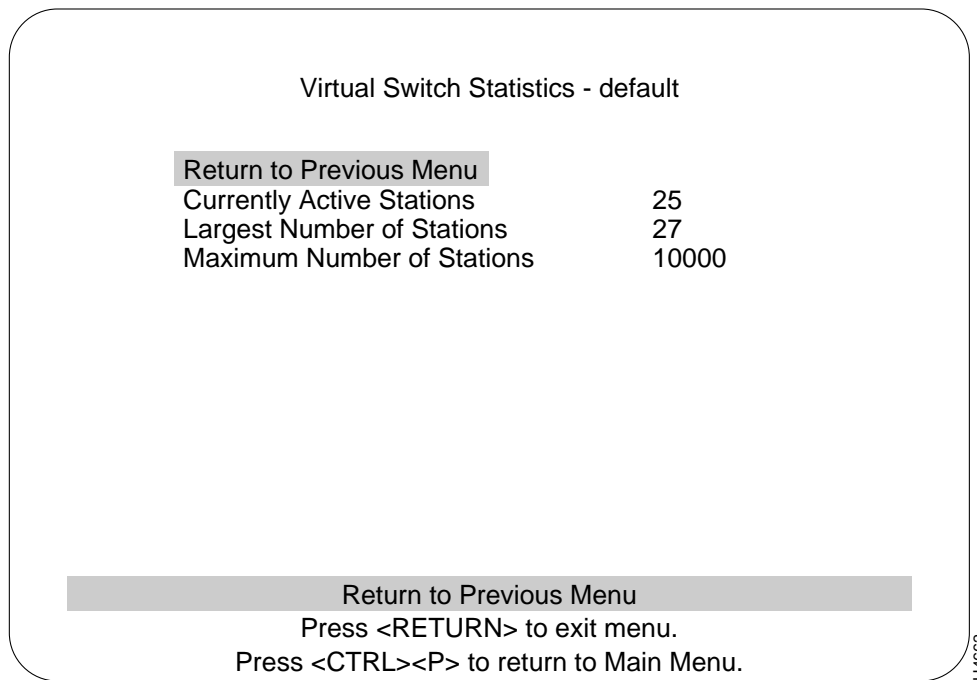
Time Since Last Change

The time since the last time the port entered the forwarding state or made the transition from forwarding to blocking.

Virtual Switch Statistics Menu

Use the Virtual Switch Statistics menu to view the current number, largest number, and maximum number of MAC address entries in the master address table for the selected VLAN.

This screen shows the default VLAN when no other VLANs are selected.

```
               Virtual Switch Statistics - default


  Return to Previous Menu
  Currently Active Stations              25
  Largest Number of Stations             27
  Maximum Number of Stations             10000




               Return to Previous Menu
             Press <RETURN> to exit menu.
        Press <CTRL><P> to return to Main Menu.
```

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Currently Active Stations

Number of MAC addresses currently in the master address table that are recognized as ports belonging to this VLAN.

Largest Number of Stations

Largest number of MAC addresses in the master address table—since the last reset or power cycle—that are recognized by ports belonging to this VLAN.

Maximum Number of Stations

Maximum number of MAC addresses available in the Master Address Table.

IEEE 802.3 Statistics Screen

The IEEE 802.3 Statistics screen displays the statistics associated with the Ethernet MIB (RFC1643).

```
                     Port 1 IEEE 802.3 Statistics


        Return to Previous Menu
        Alignment Errors                    0
        FCS Errors                          0
        Single Collision Frames             0
        Multiple Collision Frames           0
        SQE Test Errors                     0
        Deferred Transmissions              0
        Late Collisions                     0
        Excessive Collisions                0
        Internal MAC Transmit Errors        0
        Carrier Sense Errors                0
        Oversize Frames                     0
        Internal MAC Receive Errors         0
        Reset Statistics

                    Return to Previous Menu
        Use cursor keys to choose item. Press <RETURN> to confirm choice.
                Press <CTRL><P> to return to Main Menu.
```

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The IEEE 802.3 Statistics Screen is a list showing specific errors that have occurred at a specified port. The port is selected by highlighting the IEEE 802.3 heading at the main Statistics menu and pressing RETURN. At the following prompt: *Enter a port number:* enter the port number you want to view. The IEEE 802.3 Statistics screen, as shown above, appears.

> **Note** In regards to the Collision Counters, the RMON collision counter is *not* equal to the sum of the single collision frames, multiple collision frames, late collisions, and excessive collisions. The RMON counter counts actual collisions, and the 802.3 counters count frames that collide.

The data shown on this screen is for monitoring statistical information only, and is meant for network personnel experienced with this type of information. The explanation of this information is extensive and therefore would not be appropriate for a user guide. However, the instructions on how to access this information are provided so that the user can view the data to provide information for problem solving. If excessive errors are being reported and you can not find a cause, contact the Cisco Technical Assistance Center (TAC).

Diagnostic Test Results Screen

The Diagnostic Test Results screen is a list showing whether errors have occurred or a specific diagnostic test has failed on a switch or a specified box (switch) when it is part of a Stack. This display is selected by highlighting the Diagnostic Test Result heading at the main Statistics menu and pressing RETURN. At the prompt, enter the box number you want to view.

The data that is shown on this screen is for monitoring information only, and is meant for network personnel experienced with this type of information. The explanation of this information is extensive and therefore would not be appropriate for this guide. However, the instructions on how to access this information are provided so that the user can view the data to provide information for problem solving. If this menu is reporting errors and you can not find a cause, contact Cisco Support.

Box 1 Diagnostic Test Results

Diagnostic Test Results	Result
CPU Loopback	Passed
CPU Broadcast	Passed
CPU Transmitt Buffers	Passed
CPU Receive Buffers	Passed
Serial Port	Passed
Real-time Clock	Passed
Port Memory	Passed
Port Registers	Passed
Low Speed Loopback	Passed
High Speed Loopback (Xmt)	Passed
High Speed Loopback (Rcv)	Passed
Cross Board Traffic	Passed
Broadcast Traffic	Passed
Special Mode Test	Passed
Return	

Return to Previous Menu

Use cursor keys to choose item. Press <RETURN> to confirm choice.
Press <CTRL><P> to return to Main Menu.

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