

Monitoring and Analyzing Switch Operation

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Overview

The switches covered in this guide have several built-in tools for monitoring, analyzing, and troubleshooting switch and network operation:

- **Status:** Includes options for displaying general switch information, management address data, port status, port and trunk group statistics, MAC addresses detected on each port or VLAN, and STP, IGMP, and VLAN data (*page B-4*).
- **Counters:** Display details of traffic volume on individual ports (*page B-12*).
- **Event Log:** Lists switch operating events (“Using the Event Log for Troubleshooting Switch Problems” on *page C-23*).
- **Alert Log:** Lists network occurrences detected by the switch—in the Status | Overview screen of the web browser interface (*page 5-16*).
- **Configurable trap receivers:** Uses SNMP to enable management stations on your network to receive SNMP traps from the switch. (Refer to “SNMPv1 and SNMPv2c Traps” on *page 13-19*.)
- **Port monitoring (mirroring):** Copy all traffic from the specified ports to a designated monitoring port (*page B-25*).
- **Chassis Locator LED:** The blue Locator LED lights up when you enter the **chassislocate** command (

Note

Link test and ping test—analysis tools in troubleshooting situations—are described in appendix C, “Troubleshooting”. Refer to “Diagnostic Tools” on *page C-51*.

Status and Counters Data

This section describes the status and counters screens available through the switch console interface and/or the web browser interface.

Note

You can access all console screens from the web browser interface via Telnet to the console. Telnet access to the switch is available in the Device View window under the **Configuration** tab.

Status or Counters Type	Interface	Purpose	Page
Menu Access to Status and Counters	Menu	Access menu interface for status and counter data.	B-5
General System Information	Menu, CLI	Lists switch-level operating information.	B-6
Management Address Information	Menu, CLI	Lists the MAC address, IP address, and IPX network number for each VLAN or, if no VLANs are configured, for the switch.	B-9
Module Information	Menu, CLI	Lists the module type and description for each slot in which a module is installed.	B-10
Port Status	Menu, CLI, Web	Displays the operational status of each port.	B-11
Port and Trunk Statistics and Flow Control Status	Menu, CLI, Web	Summarizes port activity and lists per-port flow control status.	B-12
VLAN Address Table	Menu, CLI	Lists the MAC addresses of nodes the switch has detected on specific VLANs, with the corresponding switch port.	B-16
Port Address Table	Menu, CLI	Lists the MAC addresses that the switch has learned from the selected port.	B-16
STP Information	Menu, CLI	Lists Spanning Tree Protocol data for the switch and for individual ports. If VLANs are configured, reports on a per-VLAN basis.	B-20
IGMP Status	Menu, CLI	Lists IGMP groups, reports, queries, and port on which querier is located.	B-21
VLAN Information	Menu, CLI	For each VLAN configured in the switch, lists 802.1Q VLAN ID and up/down status.	B-22
Port Status Overview and Port Counters	Web	Shows port utilization and counters, and the Alert Log.	B-24

Menu Access To Status and Counters

Beginning at the Main Menu, display the Status and Counters menu by selecting:

1. Status and Counters

```
===== CONSOLE - MANAGER MODE =====  
Status and Counters Menu  
  
1. General System Information  
2. Switch Management Address Information  
3. Module Information  
4. Port Status  
5. Port Counters  
6. Vlan Address Table  
7. Port Address Table  
8. Spanning Tree Information  
0. Return to Main Menu...  
  
Displays switch management information including software versions.  
To select menu item, press item number, or highlight item and press <Enter>.
```

Figure B-1. The Status and Counters Menu

Each of the above menu items accesses the read-only screens described on the following pages. Refer to the online help for a description of the entries displayed in these screens.

General System Information

Menu Access

From the console Main Menu, select:

1. Status and Counters

1. General System Information

```
ProCurve Switch 2900yl-24G                               13-Dec-2006 11:27:37
----- TELNET - MANAGER MODE -----
                Status and Counters - General System Information

System Contact      :
System Location     :

Software revision   : T.12.XX           Base MAC Addr      : 001635-b57cc0
ROM Version         : K.11.02           Serial Number      : LP621K1005

Up Time            : 5 mins             Memory - Total     : 153,984,976
CPU Util (<%)     : 11                  Memory - Free      : 116,653,376

IP Mgmt - Pkts Rx : 796                 Packet - Total     : 6750
          Pkts Tx : 208                 Buffers - Free     : 5086
                                          Buffers - Lowest   : 5039
                                          Buffers - Missed   : 0

Actions->  Back  Help

Return to previous screen.
Use arrow keys to change action selection and <Enter> to execute action.
```

Figure B-2. Example of General Switch Information

This screen dynamically indicates how individual switch resources are being used. Refer to the online Help for details.

CLI Access to System Information

The **show system** command displays general system information about the switch.

Syntax: show system [information | power-supply | temperature | fans]

Displays global system information and operational parameters for the switch.

information

Displays global system information and operational parameters for the switch.

power-supply

Shows chassis power supply and settings.

temperature

Shows system temperature and settings.

fans

Shows system fan status.

```
ProCurve(config)# show system fans

Fan Information
  Num | State          | Failures
-----+-----+-----
Sys-1 | Fan OK         | 0

0 / 1 Fans in Failure State
0 / 1 Fans have been in Failure State
```

Figure B-3. Example of System Fan Status

Monitoring and Analyzing Switch Operation
Status and Counters Data

```
ProCurve(config)# show system

Status and Counters - General System Information

System Name       : ProCurve Switch 2900-24G
System Contact    :
System Location    :

MAC Age Time (sec) : 300

Time Zone         : 0
Daylight Time Rule : None

Software revision : T.13.XX           Base MAC Addr      : 001635-b57cc0
ROM Version       : K.12.12         Serial Number      : LP621KI005

Up Time           : 51 secs          Memory - Total     : 152,455,616
CPU Util (%)      : 3                Free               : 110,527,264

IP Mgmt  - Pkts Rx : 0                Packet - Total     : 6750
          Pkts Tx : 0                Buffers  Free      : 5086
                                          Lowest   : 5086
                                          Missed   : 0
```

Figure B-4. Example of Switch System Information

Switch Management Address Information

Menu Access

From the Main Menu, select:

1 Status and Counters ...

2. Switch Management Address Information

```
===== CONSOLE - MANAGER MODE =====
                        Status and Counters - Management Address Information

Time Server Address : Disabled

  VLAN Name      MAC Address      IP Address
-----
DEFAULT VLAN    0001e7-a09900    10.28.227.101
VLAN-22         0001e7-a09900    Disabled
VLAN-33         0001e7-a09900    Disabled

Actions->      Back      Help

Return to previous screen.
Use arrow keys to change action selection and <Enter> to execute action.
```

Figure B-5. Example of Management Address Information with VLANs Configured

This screen displays addresses that are important for management of the switch. If multiple VLANs are *not* configured, this screen displays a single IP address for the entire switch. Refer to the online Help for details.

Note

As shown in figure B-5, all VLANs on the switches use the same MAC address. (This includes both the statically configured VLANs and any dynamic VLANs existing on the switch as a result of GVRP operation.)

Also, the switches covered in this guide use a multiple forwarding database. When using multiple VLANs and connecting a switch to a device that uses a single forwarding database, such as a Switch 4000M, there are cabling and tagged port VLAN requirements. For more on this topic, refer to the section titled “Multiple VLAN Considerations” in the “Static Virtual LANs (VLANs)” chapter of the *Advanced Traffic Management Guide* for your switch.

CLI Access

Syntax: show management

Module Information

Use this feature to determine which slots have modules installed and which type(s) of modules are installed.

Menu: Displaying Port Status

From the Main Menu, select:

- 1. Status and Counters ...**
- 3. Module Information**

```
ProCurve Switch 2900-24G                25-Jun-2006  6:41:58
=====--          CONSOLE          -    MANAGER      MODE      -
=====
                                Status and Counters - Module Information

Slot          Module Description          Serial Number
-----  -----
A           ProCurve J8694A y1 X2/CX4 10-GbE Module  SG618ZK009

Actions->   Back      Help

Return to previous screen.
Use up/down arrow keys to scroll to other entries, left/right arrow keys to
change action selection, and <Enter> to execute action.
```

Figure B-6. Example of Module Information in the Menu Interface

CLI Access

Syntax: show modules

```
ProCurve(config)# show modules

Status and Counters - Module Information

  Slot  Module Description                               Serial Number
-----
A      ProCurve J8694A y1 X2/CX4 10-GbE Module      SG618ZK009
```

Figure B-7. Example of Module Information including the Management Module

Port Status

The web browser interface and the console interface show the same port status data.

Menu: Displaying Port Status

From the Main Menu, select:

- 1. Status and Counters ...**
- 4. Port Status**

```

-----
                        Status and Counters - Port Status
-----
Port      Type      Intrusion      Enabled  Status  Mode      Flow
Alert
-----
A1                No             Yes      Down    off
A2                No             Yes      Down    off
A3                No             Yes      Down    off
A4                No             Yes      Down    off
B1      10/100TX  No             Yes      Up      100FDx    off
B2      10/100TX  No             Yes      Down    10FDx     off
B3      10/100TX  No             Yes      Down    10FDx     off
B4      10/100TX  No             Yes      Down    10FDx     off
B5      10/100TX  No             Yes      Down    10FDx     off
B6      10/100TX  No             Yes      Down    10FDx     off
B7      10/100TX  No             Yes      Down    10FDx     off

Actions->  Back      Intrusion log  Help

Return to previous screen.
Use up/down arrow keys to scroll to other entries, left/right arrow keys to
change action selection, and <Enter> to execute action.
    
```

Figure B-8. Example of Port Status on the Menu Interface

CLI Access

Syntax: show interfaces brief

Web Access

1. Click on the **Status** tab.
2. Click on **[Port Status]**.

Viewing Port and Trunk Group Statistics and Flow Control Status

Feature	Default	Menu	CLI	Web
viewing port and trunk statistics for all ports, and flow control status	n/a	page B-14	page B-15	page B-15
viewing a detailed summary for a particular port or trunk	n/a	page B-14	page B-15	page B-15
resetting counters	n/a	page B-14	page B-15	page B-15

These features enable you to determine the traffic patterns for each port since the last reboot or reset of the switch. You can display:

- A general report of traffic on all LAN ports and trunk groups in the switch, along with the per-port flow control status (On or Off).
- A detailed summary of traffic on a selected port or trunk group.

You can also reset the counters for a specific port.

The menu interface and the web browser interface provide a dynamic display of counters summarizing the traffic on each port. The CLI lets you see a static “snapshot” of port or trunk group statistics at a particular moment.

As mentioned above, rebooting or resetting the switch resets the counters to zero. You can also reset the counters to zero for the current session. This is useful for troubleshooting. Refer to the “Note On Reset”, below.

Note on Reset

The **Reset** action resets the counter display to zero for the current session, but does not affect the cumulative values in the actual hardware counters. (In compliance with the SNMP standard, the values in the hardware counters are not reset to zero unless you reboot the switch.) Thus, using the **Reset** action resets the displayed counters to zero for the current session only. Exiting from the console session and starting a new session restores the counter displays to the accumulated values in the hardware counters.

Menu Access to Port and Trunk Statistics

To access this screen from the Main Menu, select:

1. Status and Counters ...

4. Port Counters


```
===== CONSOLE - MANAGER MODE =====
                        Status and Counters - Port Counters
-----
```

Port	Total Bytes	Total Frames	Errors Rx	Drops Tx	Flow Ctrl
A1	195,072	323	0	0	off
A2	651,816	871	0	0	off
A3-Trk1	290,163	500	0	0	off
A4-Trk1	260,134	501	0	0	off
C1	859,363	5147	0	0	off
C2	674,574	1693	0	0	off
C3	26,554	246	0	0	off
C4	113,184	276	0	0	off
C5	0	0	0	0	off

```
-----
Actions->  Back  Show details  Reset  Help

Return to previous screen.
Use up/down arrow keys to scroll to other entries, left/right arrow keys to
change action selection, and <Enter> to execute action.
```

Figure B-9. Example of Port Counters on the Menu Interface

To view details about the traffic on a particular port, use the  key to highlight that port number, then select **Show Details**. For example, selecting port A2 displays a screen similar to figure B-10, below.

```
===== CONSOLE - MANAGER MODE =====
                        Status and Counters - Port Counters - Port A2
-----
```

Link Status	: up		
Bytes Rx	: 630,746	Bytes Tx	: 21,070
Unicast Rx	: 568	Unicast Tx	: 285
Bcast/Mcast Rx	: 18	Bcast/Mcast Tx	: 0
PCS Rx	: 0	Drops Tx	: 0
Alignment Rx	: 0	Collisions Tx	: 0
Runts Rx	: 0	Late Colln Tx	: 0
Giants Rx	: 0	Excessive Colln	: 0
Total Rx Errors	: 0	Deferred Tx	: 0

```
-----
Actions->  Back  Reset  Help

Return to previous screen.
Use arrow keys to change action selection and <Enter> to execute action.
```

Figure B-10. Example of the Display for Show details on a Selected Port

This screen also includes the **Reset** action for the current session. (Refer to the “Note on Reset” on page B-13.)

CLI Access To Port and Trunk Group Statistics

To Display the Port Counter Summary Report.

Syntax: show interfaces

This command provides an overview of port activity for all ports on the switch.

To Display a Detailed Traffic Summary for Specific Ports. .

Syntax: show interfaces < port-list >

This command provides traffic details for the port(s) you specify

To Reset the Port Counters for a Specific Port.

Syntax: clear statistics < port-list >

This command resets the counters for the specified ports to zero for the current session. (See the “Note on Reset” on page B-13.)

Web Browser Access To View Port and Trunk Group Statistics

1. Click on the **Status** tab.
2. Click on **[Port Counters]**.
3. To refresh the counters for a specific port, click anywhere in the row for that port, then click on **[Refresh]**.

Note

To reset the port counters to zero, you must reboot the switch.

Viewing the Switch's MAC Address Tables

Feature	Default	Menu	CLI	Web
viewing MAC addresses on all ports on a specific VLAN	n/a	page B-16	page B-19	—
viewing MAC addresses on a specific port	n/a	page B-18	page B-19	—
searching for a MAC address	n/a	page B-18	page B-19	—

These features help you to view:

- The MAC addresses that the switch has learned from network devices attached to the switch
- The port on which each MAC address was learned

Menu Access to the MAC Address Views and Searches

Per-VLAN MAC-Address Viewing and Searching. This feature lets you determine which switch port on a selected VLAN is being used to communicate with a specific device on the network. The per-VLAN listing includes:

- The MAC addresses that the switch has learned from network devices attached to the switch
- The port on which each MAC address was learned

1. From the Main Menu, select:

1. Status and Counters
5. VLAN Address Table

2. The switch then prompts you to select a VLAN.

```
Select VLAN : DEFAULT_VLAN
```

3. Use the Space bar to select the VLAN you want, then press [Enter]. The switch then displays the MAC address table for that VLAN:

```

----- CONSOLE - MANAGER MODE -----
                          Status and Counters - Address Table

  MAC Address  Located on Port
-----
0030c1-7f49c0  A3
0030c1-7fec40  A1
0030c1-b29ac0  A3
0060b0-17de5b  A3
0060b0-880a80  A2
0060b0-df1a00  A3
0060b0-df2a00  A3
0060b0-e9a200  A3
009027-e74f90  A3
080009-21ae84  A3
080009-62c411  A3
080009-6563e2  A3

Actions->  Back  Search  Next page  Prev page  Help

Return to previous screen.
Use up/down arrow keys to scroll to other entries, left/right arrow keys to
change action selection, and <Enter> to execute action.

```

Figure B-11. Example of the Address Table

To page through the listing, use **Next page** and **Prev page**.

Finding the Port Connection for a Specific Device on a VLAN. This feature uses a device’s MAC address that you enter to identify the port used by that device.

1. Proceeding from figure B-11, press **[S]** (for **Search**), to display the following prompt:

Enter MAC address: _

2. Type the MAC address you want to locate and press **[Enter]**. The address and port number are highlighted if found. If the switch does not find the MAC address on the currently selected VLAN, it leaves the MAC address listing empty.

Located MAC Address and Corresponding Port Number

```

----- CONSOLE - MANAGER MODE -----
                          Status and Counters - Address Table

  MAC Address  Located on Port
-----
0030c1-7fcc6d  2
005004-17df9c  1
0060b0-889e00  1

```

Figure B-12. Example of Menu Indicating Located MAC Address

3. Press **[P]** (for **Prev page**) to return to the full address table listing.

Port-Level MAC Address Viewing and Searching. This feature displays and searches for MAC addresses on the specified port instead of for all ports on the switch.

1. From the Main Menu, select:

1. Status and Counters
7. Port Address Table

```
=====  CONSOLE - MANAGER MODE  =====
                        Status and Counters Menu

1. General System Information
2. Switch Management Address Information
3. Module Information
4. Port Status
5. Port Counters
6. Vlan Address Table
7. Port Address Table
8. Spanning Tree Information
0. Return to Main Menu...

Select port : A1
Type port number or press <Space> to scroll ports. Press <Enter> to select.
To select menu item, press item number, or highlight item and press <Enter>.
```

Prompt for Selecting
the Port To Search

Figure B-13. Listing MAC Addresses for a Specific Port

2. Use the Space bar to select the port you want to list or search for MAC addresses, then press **[Enter]** to list the MAC addresses detected on that port.

Determining Whether a Specific Device Is Connected to the Selected Port. Proceeding from step 2, above:

1. Press **[S]** (for **Search**), to display the following prompt:
Enter MAC address: _
2. Type the MAC address you want to locate and press **[Enter]**. The address is highlighted if found. If the switch does not find the address, it leaves the MAC address listing empty.
3. Press **[P]** (for **Prev page**) to return to the previous per-port listing.

CLI Access for MAC Address Views and Searches

Syntax: show mac-address
 [vlan <vlan-id >]
 [<port-list >]
 [<mac-addr >]

To List All Learned MAC Addresses on the Switch, with The Port Number on Which Each MAC Address Was Learned.

```
ProCurve> show mac-address
```

To List All Learned MAC Addresses on one or more ports, with Their Corresponding Port Numbers. For example, to list the learned MAC address on ports A1 through A4 and port A6:

```
ProCurve> show mac-address a1-a4,a6
```

To List All Learned MAC Addresses on a VLAN, with Their Port Numbers. This command lists the MAC addresses associated with the ports for a given VLAN. For example:

```
ProCurve> show mac-address vlan 100
```

Note

The switches covered in this guide operate with a multiple forwarding database architecture.

To Find the Port On Which the Switch Learned a Specific MAC Address. For example, to find the port on which the switch learns a MAC address of 080009-21ae84:

```
ProCurve# show mac-address 080009-21ae84
Status and Counters - Address Table - 080009-21ae84
  MAC Address : 080009-21ae84
  Located on Port : A2
```

Spanning Tree Protocol (MSTP) Information

CLI Access to MSTP Data

This option lists the MSTP configuration, root data, and per-port data (cost, priority, state, and designated bridge).

Syntax: show spanning-tree

*This command displays the switch's global and regional spanning-tree status, plus the per-port spanning-tree operation at the regional level. Note that values for the following parameters appear only for ports connected to active devices: **Designated Bridge, Hello Time, PtP, and Edge.***

```
Switch-1(config)# show spanning-tree
Multiple Spanning Tree (MST) Information

STP Enabled      : Yes
Force Version   : MSTP-operation
IST Mapped VLANs : 1,66

Switch MAC Address : 0004ea-5e2000
Switch Priority    : 32768
Max Age          : 20
Max Hops         : 20
Forward Delay    : 15

Topology Change Count : 0
Time Since Last Change : 2 hours

CST Root MAC Address : 00022d-47367f
CST Root Priority     : 0
CST Root Path Cost   : 4000000
CST Root Port        : A1

IST Regional Root MAC Address : 000883-028300
IST Regional Root Priority     : 32768
IST Regional Root Path Cost    : 200000
IST Remaining Hops             : 19
```

Port	Type	Cost	Priority	State	Designated Bridge	Hello Time	PtP	Edge
A1	10/100TX	Auto	128	Forwarding	000883-028300	9	Yes	No
A2	10/100TX	Auto	128	Blocking	0001e7-948300	9	Yes	No
A3	10/100TX	Auto	128	Forwarding	000883-02a700	2	Yes	No
A4	10/100TX	Auto	128	Disabled				
A5	10/100TX	Auto	128	Disabled				
.				
.				

Figure B-14. Output from show spanning-tree Command

Internet Group Management Protocol (IGMP) Status

The switch uses the CLI to display the following IGMP status on a per-VLAN basis:

Show Command	Output
show ip igmp	Global command listing IGMP status for all VLANs configured in the switch: <ul style="list-style-type: none"> • VLAN ID (VID) and name • Active group addresses per VLAN • Number of report and query packets per group • Querier access port per VLAN
show ip igmp <vlan-id>	Per-VLAN command listing above IGMP status for specified VLAN (VID)
show ip igmp group <ip-addr>	Lists the ports currently participating in the specified group, with port type, Access type, Age Timer data and Leave Timer data.

For example, suppose that **show ip igmp** listed an IGMP group address of 224.0.1.22. You could get additional data on that group by executing the following:

```
ProCurve> show ip igmp group 224.0.1.22

IGMP ports for group 224.0.1.22

  Port Type      Access      Age Timer  Leave Timer
  ---- -
  3    10/100TX  host        0          0
```

Figure B-15. Example of IGMP Group Data

VLAN Information

The switch uses the CLI to display the following VLAN status:

Show Command	Output
show vlan	Lists: <ul style="list-style-type: none">• Maximum number of VLANs to support• Existing VLANs• Status (static or dynamic)• Primary VLAN
show vlan <vlan-id>	For the specified VLAN, lists: <ul style="list-style-type: none">• Name, VID, and status (static/dynamic)• Per-Port mode (tagged, untagged, forbid, no/auto)• "Unknown VLAN" setting (Learn, Block, Disable)• Port status (up/down)

For example, suppose that your switch has the following VLANs:

Ports	VLAN	VID
A1-A12	DEFAULT_VLAN	1
A1, A2	VLAN-33	83
A3, A4	VLAN-44	44

The next three figures show how you could list data on the above VLANs.

Listing the VLAN ID (VID) and Status for ALL VLANs in the Switch.

```
ProCurve> show vlan
Status and Counters - VLAN Information
VLAN support : Yes
Maximum VLANs to support : 9
Primary VLAN: DEFAULT_VLAN

802.1Q VLAN ID Name          Status  --
-----
1          DEFAULT_VLAN  Static
33         VLAN-33      Static
44         VLAN-44      Static
```

Figure B-16. Example of VLAN Listing for the Entire Switch

Listing the VLAN ID (VID) and Status for Specific Ports.

Because ports A1 and A2 are not members of VLAN-44, it does not appear in this listing.

```
ProCurve>show vlan ports A1-A2
Status and Counters - VLAN Information - for ports A1,A2
802.1Q VLAN ID Name          Status
-----
1             DEFAULT_VLAN  Static
33            VLAN-33    Static
```

Figure B-17. Example of VLAN Listing for Specific Ports

Listing Individual VLAN Status.

```
ProCurve>show vlan 1
Status and Counters - VLAN Information - Ports - VLAN 1
802.1Q VLAN ID : 1
Name           : DEFAULT_VLAN
Status        : Static

Port Information Mode      Unknown VLAN Status
-----
A1             Untagged Learn      Up
A2             Tagged   Learn      Up
A3             Untagged Learn      Up
A4             Untagged Learn      Down
A5             Untagged Learn      Down
*             *             *             *
*             *             *             *
*             *             *             *
```

Figure B-18. Example of Port Listing for an Individual VLAN

Web Browser Interface Status Information

The “home” screen for the web browser interface is the Status Overview screen, as shown below. As the title implies, it provides an overview of the status of the switch, including summary graphs indicating the network utilization on each of the switch ports, symbolic port status indicators, and the Alert Log, which informs you of any problems that may have occurred on the switch.

For more information on this screen, refer to chapter 5, “Using the ProCurve Web Browser Interface” .

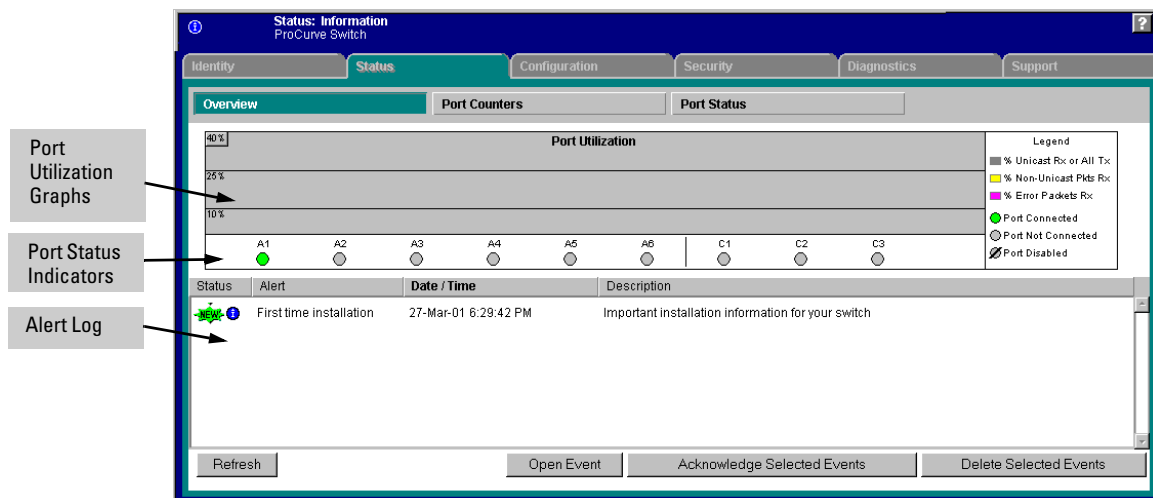


Figure B-19. Example of a Web Browser Interface Status Overview Screen

Interface Monitoring Features

Port Monitoring Features

Feature	Default	Menu	CLI	Web
display monitoring configuration	disabled	page B-26	page B-28	page B-31
configure the monitor port(s)	ports: none	page B-26	page B-29	page B-31
selecting or removing ports	none selected	page B-26	page B-30	page B-31

You can designate monitoring of inbound and outbound traffic on:

- **Ports and static trunks:** Allows monitoring of individual ports, groups of contiguous ports, and static port trunks.
- **Static VLANs:** Allows traffic monitoring on one static VLAN.

The switch monitors network activity by copying all traffic inbound and outbound on the specified interfaces to the designated monitoring port, to which a network analyzer can be attached.

If a tagged packet arrives on a monitored port, the packet will remain tagged when it goes out a monitored port even if that port is configured as untagged. If the packet is untagged, it will remain untagged going out the monitor port. The monitor port state (tagged or untagged) does not affect the tagging of the packet. However, egress mirroring does not reflect the tagged or untagged characteristic to the mirror port, instead it reflects the tagged or untagged characteristic of the mirror port.

Note

When both inbound and outbound monitoring is done, and IGMP is enabled on any VLAN, you may get two copies of IGMP packets on the monitored port.

Note

VLANs and port trunks cannot be used as a monitoring port.

The switch can monitor static LACP trunks, but not dynamic LACP trunks.

It is possible, when monitoring multiple interfaces in networks with high traffic levels, to copy more traffic to a monitor port than the link can support. In this case, some packets may not be copied to the monitor port.

Menu: Configuring Port and Static Trunk Monitoring

This procedure describes configuring the switch for monitoring when monitoring is disabled. (If monitoring has already been enabled, the screens will appear differently than shown in this procedure.)

1. From the Console Main Menu, Select:
 2. **Switch Configuration...**
 3. **Network Monitoring Port**

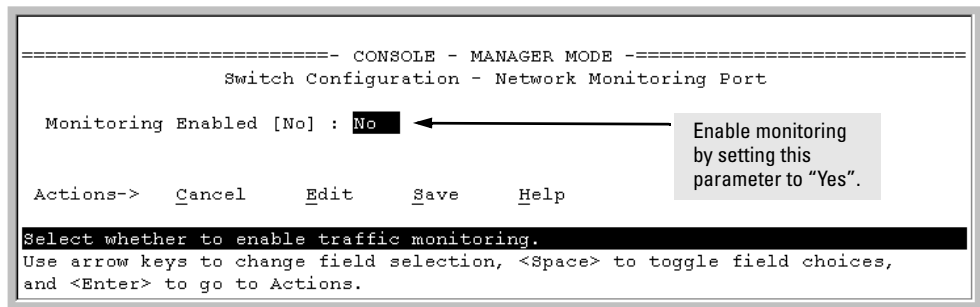


Figure B-20. The Default Network Monitoring Configuration Screen

2. In the Actions menu, press [E] (for Edit).
3. If monitoring is currently disabled (the default) then enable it by pressing the Space bar (or [Y]) to select Yes.
4. Press the down arrow key to display a screen similar to the following and move the cursor to the **Monitoring Port** parameter.

```

----- CONSOLE - MANAGER MODE -----
                Switch Configuration - Network Monitoring Port

Monitoring Enabled [No] : Yes
Monitoring Port : A1
Monitor : Ports

Port      Type      Action      |      Port      Type      Action
-----+-----+-----+-----+-----+-----
A1      10/100TX      |      A10     10/100TX      |
A2      10/100TX      |      A11     10/100TX      |
A3      10/100TX      |      A12     10/100TX      |
A4      10/100TX      |      A13     10/100TX      |
A5      10/100TX      |      A14     10/100TX      |
A6      10/100TX      |      A15     10/100TX      |
A7      10/100TX      |      A20     10/100TX      |
A8      10/100TX      |      Trk1    Trunk          |

Actions->  C a n c e l      E d i t      S a v e      H e l p

Select the port that will act as the Monitoring Port.
Use arrow keys to change field selection, <Space> to toggle field choices,
and <Enter> to go to Actions.

```

Figure B-21. How To Select a Monitoring Port

5. Use the Space bar to select the port to use for monitoring.
6. Highlight the Monitor field and use the Space bar to select the interfaces to monitor:

Ports: Use for monitoring ports or static trunks.

VLAN: Use for monitoring a VLAN.

7. Do one of the following:
 - If you are monitoring ports or static trunks go to step 8.
 - If you are monitoring a VLAN:
 - i. Press **[Tab]** or the down arrow key to move to the **VLAN** field.

```

ProCurve
----- CONSOLE - MANAGER MODE -----
                Switch Configuration - Network Monitoring Port

Monitoring Enabled [No] : Yes
Monitoring Port : A1
Monitor : VLAN
VLAN : VLAN 20

```

- ii. Use the Space bar to select the VLAN you want to monitor.
 - iii. Go to step 10.
8. Use the down arrow key to move the cursor to the **Action** column for the individual ports and position the cursor at a port you want to monitor.
 9. Press the Space bar to select **Monitor** for each port and trunk that you want monitored. (Use the down arrow key to move from one interface to the next in the **Action** column.)
 10. When you finish selecting ports to monitor, press **[Enter]**, then press **[S]** (for **Save**) to save your changes and exit from the screen.
 11. Return to the Main Menu.

CLI: Configuring Port and Static Trunk Monitoring

Port and Static Trunk Monitoring Commands Used in This Section

show monitor	below
mirror-port	page B-29
monitor	page B-30

You must use the following configuration sequence to configure port and static trunk monitoring in the CLI:

1. Assign a monitoring (mirror) port.
2. Designate the port(s) and/or static trunk(s) to monitor.

Displaying the Monitoring Configuration.

Syntax: show monitor

This command lists the port assigned to receive monitored traffic and the ports and/or trunks being monitored.

For example, if you assign port A6 as the monitoring port and configure the switch to monitor ports A1 - A3, **show monitor** displays the following:

```
ProCurve(config)# show monitor

Network Monitoring Port

Mirror Port: A6 ← Port receiving monitored traffic.

Monitoring sources
-----
A1 ← Monitored Ports
A2
A3
```

Figure B-22. Example of Monitored Port Listing

Configuring the Monitor Port.

Syntax: [no] mirror-port [< port-num >]

This command assigns or removes a monitoring port, and must be executed from the global configuration level. Removing the monitor port disables port monitoring and resets the monitoring parameters to their factory-default settings.

For example, to assign port A6 as the monitoring port:

```
ProCurve(config)# mirror-port a6
```

To turn off monitoring:

```
ProCurve(config)# no mirror-port
```

Selecting or Removing Monitoring Source Interfaces. After you configure a monitor port you can use either the global configuration level or the interface context level to select ports, static trunks, or VLANs as monitoring sources. You can also use either level to remove monitoring sources.

Syntax: [no] interface < *monitor-list* > monitor
[no] vlan < *vid* > monitor

where:

< *monitor-list* > *Includes port numbers and static trunk names such as a4,c7, b5-b8, trk1.*

< *vid* > *Allows monitoring of one VLAN.*

Identifies the switch elements to monitor through the currently configured monitor port. You can monitor the port(s) and static trunk(s) available on the switch or one VLAN.

Note

Individual ports and static trunks can be monitored at the same time. However, if you configure the switch to monitor a VLAN, all other interfaces are removed from monitoring. Also, you can configure only one VLAN at a time for monitoring.

Elements in the monitor list can include port numbers and static trunk names at the same time.

For example, with a port such as port A6 configured as the monitoring (mirror) port, you would use either of the following commands to select these interfaces for monitoring:

- A1 through A3, and A5
- Trunks 1 and 2

```
ProCurve(config)# int 6-9, 14 trk2, monitor
```

Figure B-23. Examples of Selecting Ports and Static Trunks as Monitoring Sources

To monitor a VLAN:

```
ProCurve(config)# vlan 20 monitor
ProCurve(config)# show monitor
Network Monitoring Port
Mirror_Port: A1
Monitoring sources
-----
VLAN_20
```

Configure monitoring of VLAN 20.

Display current monitoring configuration:

- Monitor port
- Interface Being Monitored

Figure B-24. Example of Configuring VLAN Monitoring

```
ProCurve(eth-A1-A3,A5)# no int e a5 monitor
ProCurve(eth-A1-A3,A5)# no monitor
ProCurve(config)# no int e a5 monitor
ProCurve(config)# no int e a1-a3,a5 monitor
```

These two commands show how to disable monitoring at the interface context level for a single port or all ports in an interface context level.

These two commands show how to disable monitoring at the global config level for a single port or a group of ports.

Figure B-25. Examples of Removing Ports as Monitoring Sources

Web: Configuring Port Monitoring

To enable port monitoring:

1. Click on the **Configuration** tab.
2. Click on **[Monitor Port]**.
3. To monitor one or more ports.
 - a. Click on the radio button for **Monitor Selected Ports**.
 - b. Select the port(s) to monitor.
4. Click on **[Apply Changes]**.

To remove port monitoring:

1. Click on the **[Monitoring Off]** radio button.
2. Click on **[Apply Changes]**.

For web-based Help on how to use the web browser interface screen, click on the **[?]** button provided on the web browser screen.

Locating a Device

If you are trying to locate a particular switch you can enter the **chassislocate** command. The blue Locator LED will light up on that switch.

Syntax: chassislocate [blink | on | off]

Locate a device by using the blue Locate LED on the front panel.

blink <1-1440>

Blinks the chassis Locate LED for a selected number of minutes (default is 30 minutes).

on <1-1440>

Turns the chassis Locate LED on for a selected number of minutes (default is 30 minutes).

off

Turns the chassis Locate LED off.

```
ProCurve(config)# chassislocate
  blink <1-1440>          Blink the chassis locate led (default 30 minutes).
  off                    Turn the chassis locate led off.
  on <1-1440>           Turn the chassis locate led on (default 30 minutes).
ProCurve(config)# chassislocate
```

Figure B-26. The chassislocate command

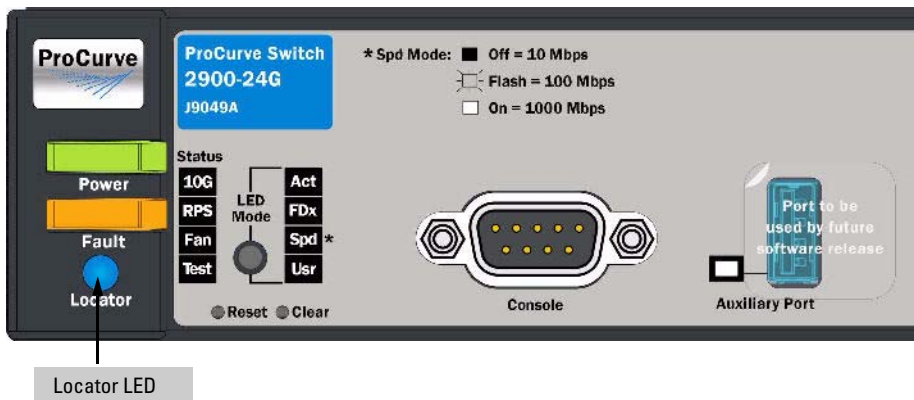


Figure B-27. The Chassis Locator LED

Monitoring and Analyzing Switch Operation
Locating a Device