ProCurve Networking
HP Innovation

Release Notes:
Version M.08.62 Software
for the ProCurve Series 3400cl and 6400cl Switches

Release M.08.62 supports these switches:

- ProCurve Switch 3400cl-24G (J4905A)
- ProCurve Switch 3400cl-48G (J4906A)
- ProCurve Switch 6400cl-6XG 10-GbE CX4 (J8433A)
- ProCurve Switch 6410cl-6XG 10-GbE X2 (J8474A)

These release notes include information on the following:

Related Publications

For the latest version of any of the publications listed below, visit the ProCurve NetworkingWeb site at:

http://www.hp.com/go/procurve

Click on **Technical support**, then **Product manuals**.

Publication	Part Number and Edition	Availability
*Management and Configuration Guide**	5990-6050, January 2005 or later	Included on version 3.8 or greater of the Documentation CD-ROM shipped with the switch, and also available on the ProCurve Networking Support Web site. (Refer to the URL information, above.)
*Advanced Traffic Management Guide**	5990-6051, January 2005 or later	
*Access Security Guide**	5990-6052, January 2005 or later	

*Covers the ProCurve Series 5300xl, Series 3400cl and 6400cl switches.

Publication Number

5990-8860
March 2005

Applicable Product

ProCurve Switch 3400cl-24G	(J4905A)
ProCurve Switch 3400cl-48G	(J4906A)
ProCurve Switch 6400cl-6XG 10-GbE CX4	(J8433A)
ProCurve Switch 6410cl-6XG 10-GbE X2	(J8474A)

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SSH on ProCurve Switches is based on the OpenSSH software toolkit. This product includes software developed by the OpenSSH Project for use in the OpenSSH Toolkit. For more information on OpenSSH, visit

http:// www.openssh.com.

SSL on ProCurve Switches is based on the OpenSSL software toolkit. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. For more information on OpenSSL, visit

http://www.openssl.org.

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com)

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Hewlett-Packard Company
8000 Foothills Boulevard, m/s 5551
Roseville, California 95747-5551
http://www.hp.com/go/procurve

Contents

Software Management

Software Updates

Check the ProCurve Networking Web site frequently for free software updates for the various ProCurve switches you may have in your network.

Downloading Switch Documentation and Software from the Web

You can download software updates and the corresponding product documentation from the ProCurve Networking Web site as described below.

To Download a Software Version:

1. Go to the ProCurve Networking Web site at:

   http://www.hp.com/go/procurve.

2. Click on **Software updates** (in the sidebar).
3. Under **Latest software**, click on **Switches**.

To Download Product Documentation: You will need the Adobe® Acrobat® Reader to view, print, and/or copy the product documentation.

1. Go to the ProCurve Networking Web site at http://www.hp.com/go/procurve.
2. Click on **Technical support**, then **Product manuals**.
3. Click on the name of the product for which you want documentation.
4. On the resulting web page, double-click on a document you want.
5. When the document file opens, click on the disk icon  in the Acrobat® toolbar and save a copy of the file.

Downloading Software to the Switch

ProCurve Networking periodically provides switch software updates through the ProCurve Networking Web site (**http://www.hp.com/go/procurve**). After you acquire the new software file, you can use one of the following methods for downloading it to the switch:

- For a TFTP transfer from a server, do either of the following:
  - Click on **Download OS** in the Main Menu of the switch's menu interface and use the (default) **TFTP** option.
  - Use the **copy tftp** command in the switch's CLI (see below).
- For an Xmodem transfer from a PC or Unix workstation, do either of the following:
  - Click on **Download OS** in the Main Menu of the switch's menu interface and select the **Xmodem** option.
  - Use the `copy xmodem` command in the switch's CLI (page 4).
- Use the download utility in ProCurve Manager Plus.
- A switch-to-switch file transfer

Note

Downloading new software does not change the current switch configuration. The switch configuration is contained in a separate file that can also be transferred, for example, for archive purposes or to be used in another switch of the same model.

This section describes how to use the CLI to download software to the switch. You can also use the menu interface for software downloads. For more information, refer to the *Management and Configuration Guide* for your switch.

TFTP Download from a Server

Syntax: copy tftp flash <*ip-address*> <*remote-os-file*> [< primary | secondary >]

Note that if you do not specify the flash destination, the TFTP download defaults to the primary flash.

For example, to download a software file named M_08_62.swi from a TFTP server with the IP address of 10.28.227.103:

1. Execute the copy command as shown below:

```
HPswitch # copy tftp flash 10.28.227.103  M_08_62.swi
Device will be rebooted, do you want to continue [y/n]?  y
03125K _
```

2. When the switch finishes downloading the software file from the server, it displays this progress message:

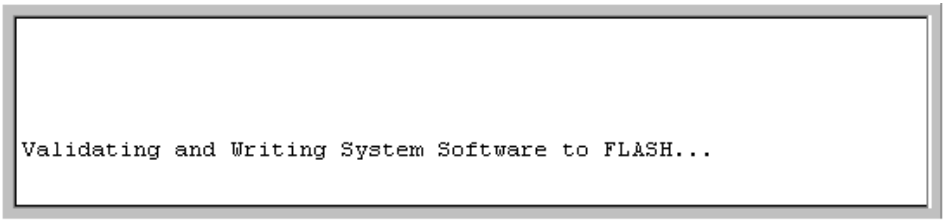

Figure 1. Message Indicating the Switch Is Writing the Downloaded Software to Flash Memory

3. After the switch writes the downloaded software to flash memory, the CLI prompt is returned:

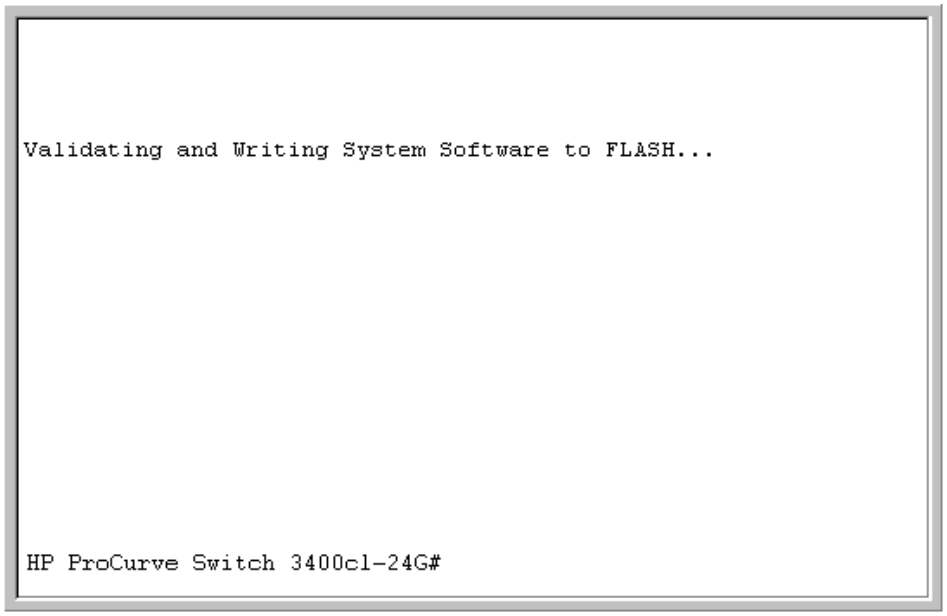

Figure 2. The Switch Is Ready To Activate the Downloaded Software

4. Reboot the switch.

   After the switch reboots, it displays the CLI or Main Menu, depending on the **Logon Default** setting last configured in the menu's Switch Setup screen.

Xmodem Download From a PC or Unix Workstation

This procedure assumes that:

- The switch is connected via the Console RS-232 port on a PC operating as a terminal. (Refer to the Installation Guide you received with the switch for information on connecting a PC as a terminal and running the switch console interface.)
- The switch software is stored on a disk drive in the PC.
- The terminal emulator you are using includes the Xmodem binary transfer feature. (For example, in the Microsoft Windows NT® terminal emulator, you would use the **Send File** option in the **Transfer** drop-down menu.)

Syntax: copy xmodem flash < unix | pc >

For example, to download a software file from a PC:

1. To reduce the download time, you may want to increase the baud rate in your terminal emulator and in the switch to a value such as 115200 bits per second. (The baud rate must be the same in both devices.) For example, to change the baud rate in the switch to 115200, execute this command:

   ```
   HPswitch(config)# console baud-rate 115200
   ```

   (If you use this option, be sure to set your terminal emulator to the same baud rate.)

2. Execute the following command in the CLI:

   ```
   HPswitch(config)# copy xmodem flash pc
   Device will be rebooted, do you want to continue [y/n]?  y
   Press 'Enter' and start XMODEM on your host...
   ```

3. Execute the terminal emulator commands to begin the Xmodem transfer.

   The download can take several minutes, depending on the baud rate used in the transfer.

   When the download finishes, the switch automatically reboots itself and begins running the new software.

4. To confirm that the software downloaded correctly:

   ```
   HPswitch> show system
   ```

   Check the **Firmware revision** line.

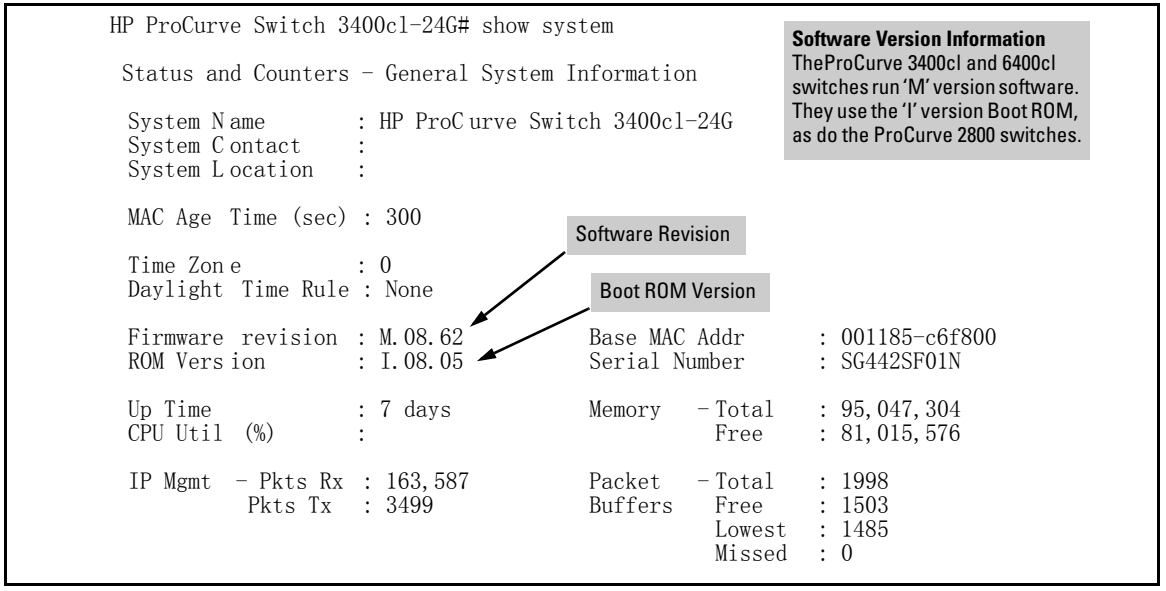

Figure 3. Verifying the Software Revision and the Boot ROM Version

5. If you increased the baud rate on the switch (step 1), use the same command to return it to its previous setting. (HP recommends a baud rate of 9600 bits per second for most applications.) Remember to return your terminal emulator to the same baud rate as the switch.

Saving Configurations While Using the CLI

The switch operates with two configuration files:

- **Running-Config File:** Exists in volatile memory and controls switch operation. Rebooting the switch erases the current running-config file and replaces it with an exact copy of the current startup-config file. To save a configuration change, you must save the running configuration to the startup-config file.
- **Startup-Config File:** Exists in flash (non-volatile) memory and preserves the most recently-saved configuration as the "permanent" configuration. When the switch reboots for any reason, an exact copy of the current startup-config file becomes the new running-config file in volatile memory.

When you use the CLI to make a configuration change, the switch places the change in the running-config file. If you want to preserve the change across reboots, you must save the change to the startup-config file. Otherwise, the next time the switch reboots, the change will be lost. There are two ways to save configuration changes while using the CLI:

- Execute **write memory** from the Manager, Global, or Context configuration level.
- When exiting from the CLI to the Main Menu, press **[Y]** (for `Yes`) when you see the "save configuration" prompt:

```
Do you want to save current configuration [y/n] ?
```

ProCurve Switch Software Key

Software Letter	ProCurve Switch
C	1600M, 2400M, 2424M, 4000M, and 8000M
E	Switch 5300xl Series (5304xl, 5308xl, 5348xl, and 5372xl)
F	Switch 2500 Series (2512 and 2524), Switch 2312, and Switch 2324
G	Switch 4100GL Series (4104GL, 4108GL, and 4148GL)
H	Switch 2600 Series, Switch 2600-PWR Series • H.07.50 and Earlier • H.08.55 and Greater
H	Switch 6108: H.07.*xx* and Earlier
I	Switch 2800 Series (2824 and 2848)
M	Switch 3400cl Series (3400-24G and 3400-48G),
M	Switch 6400cl Series (6400cl-6XG or Switch 6410cl-6XG): M.08.62 and Greater
N/A	Switch 9300 Series (9304M, 9308M, and 9315M), Switch 6208M-SX and Switch 6308M-SX (Uses software version number only; no alphabetic prefix. For example 07.6.04.)

Minimum Software Versions for Series 3400cl/6400cl Switch Features

For Software Features. To view a tabular listing of major switch software features and the minimum software version each feature requires:

1. Visit the ProCurve Networking Web site at **http://www.hp.com/go/procurve**.
2. Click on **Software updates.**
3. Click on **Minimum Software Version Required by Feature**.

For Switch 3400cl Hardware Accessories.

ProCurve Device	Minimum Supported Software Version
J8434A ProCurve 10-GbE Copper Module	M.08.61
J8435A ProCurve 10-GbE Media Flex Module	M.08.61
J8436A ProCurve 10-GbE X2 SR-SC Xcvr	M.08.51
J8437A ProCurve 10-GbE X2 LR-SC Xcvr	M.08.51
J8439A ProCurve 10-GbE CX4 Media Converter	M.08.51
J8440A ProCurve 10-GbE X2 CX4 Xcvr	M.08.51

For Switch 6400cl Hardware Accessories.

ProCurve Device	Minimum Supported Software Version
J8434A ProCurve 10-GbE Copper Module	M.08.62
J8435A ProCurve 10-GbE Media Flex Module	M.08.62
J8436A ProCurve 10-GbE X2 SR-SC Xcvr	M.08.62
J8437A ProCurve 10-GbE X2 LR-SC Xcvr	M.08.62
J8439A ProCurve 10-GbE CX4 Media Converter	M.08.62
J8440A ProCurve 10-GbE X2 CX4 Xcvr	M.08.62

Clarifications and Updates

Non-Genuine Mini-GBIC Detection and Protection Initiative

Non-genuine ProCurve Transceivers and Mini-GBICs have been offered for sale in the marketplace. To protect customer networks from these unsupported products, ProCurve switch software includes the capability to detect and disable non-genuine transceivers and mini-GBICs discovered in Series 3400cl Switch ports. When a non-genuine device is discovered, the switch disables the port and generates an error message in the Event Log.

Publication Updates

Table 1 lists updates to the manual set dated January, 2005.

Table 1. Publication Updates for Manual Set Dated January, 2005

***Management and Configuration Guide for the 3400cl, 5300xl, & 6400cl Switches,* p/n 5990-6050, January 2005 Edition**	**Update**
Chapter 14: "Configuring for Network Management Applications" Pages 14-44 and 14-49	The **show lldp info stats** is an invalid command. The correct syntax is: **show lldp stats**.

IGMP Command Update

The following information updates and clarifies information in Chapter 4, "Multimedia Traffic Control with IP Multicast (IGMP)" in the *Advanced Traffic Management Guide*—part number 5990-6051, September 2004 edition. Please refer to this chapter for a detailed explanation of IGMP operation.

The 3400cl switches support the following standards and RFCs:

- RFC2236 (IGMP V.2, with backwards support for IGMP V.1)
- Interoperability with RFC3376 (IGMPv3)
- IETF draft for IGMP and MLD snooping switches (for IGMP V1, V2 V3)

The 3400cl switches:

- Provide full IGMPv2 support as well as full support for IGMPv1 Joins.
- Forward packets for the joined group from all sources, including IGMPv3 Joins.
- Do not support IGMPv3 "Exclude Source" or "Include Source" options in the Join Reports.
- Can operate in IGMPv2 Querier mode on VLANs with an IP address.

IGMP is supported in the HP MIB, rather than the standard IGMP MIBs, as the latter reduce Group Membership detail in switched environments.

Using Delayed Group Flush. This feature continues to filter IGMP groups for a specified additional period of time after IGMP leaves have been sent. The delay in flushing the group filter prevents unregistered traffic from being forwarded by the server during the delay period. In practice, this is rarely necessary on switches such as the Series 3400cl switches, which support data-driven IGMP. (Data-Driven IGMP, which is enabled by default, prunes off any unregistered streams detected on the switch.)

Syntax: igmp delayed-flush < *time period* >

Where leaves have been sent for IGMP groups, enables the switch to continue to flush the groups for a specified period of time (0 - 255 seconds). This command is applied globally to all IGMP-configured VLANs on the switch. A setting of **0** *(zero) disables the feature. (Default:* Disabled.)

Syntax: show igmp delayed-flush

Displays the current setting for the switch.

Setting Fast-Leave and Forced Fast-Leave from the CLI. In earlier switch models, including the 5300xl switches, fast-leave and forced fast-leave options for a port were configured with a lengthy **setmib** command. The following commands now allow a port to be configured for fast-leave or forced fast-leave operation with a conventional CLI command instead of the **setmib** command. Note that these command must be executed in a VLAN context.

Syntax: [no] ip igmp fastleave < *port-list* >

Enables IGMP fast-leaves on the specified ports in the selected VLAN. In the Config context, use the VLAN specifier, for example, **vlan < *vid* > ip igmp fastleave < *port-list* >**. *The* **no** *form of the command disables IGMP fast-leave. (Default: Enabled)*

[no] ip igmp forcedfastleave < *port-list* >

Forces IGMP Fast-Leaves on the specified ports in the selected VLAN, even if they are cascaded. (Default: Disabled)

To view a non-default IGMP forced fast-leave configuration on a VLAN, use the **show running-config** command. (The **show running-config** output does not include forced fast-leave if it is set to the default of **0**.)

Note

In a future version of the 3400cl switch software, the **show running-config** command output will include any nondefault fast-leave settings configured. However, this information is not included in the output for the M.08.53 software release.

IGMP Operating Notes.

- On the Series 3400cl switches, the delayed group flush feature offers little additional benefit over the IGMP data-driven feature (which is enabled by default).
- Forced fast-leave can be used when there are multiple devices attached to a port.

Displaying Spanning-Tree Configuration Detail

These commands are available in the Series 3400cl switches, but are not included in chapter 6, "Spanning-Tree Operation" (in the *Advanced Traffic Management Guide* for your switch).

Syntax: show spanning-tree detail

Displays the 802.1D (STP) or 802.1w (RSTP) status and counters for all ports on the switch, depending on which spanning-tree option is enabled.

show spanning-tree < port-list > [config | detail]

config: *Displays the 802.1D (STP) or 802.1w (RSTP) spanning-tree configuration for the specified ports, depending on which spanning-tree option is enabled.*

detail: *Displays the 802.1D (STP) or 802.1w (RSTP) status and counters for the specified ports, depending on which spanning-tree option is enabled.*

General Switch Traffic Security Guideline

Where the switch is running multiple security options, it implements network traffic security based on the OSI (Open Systems Interconnection model) precedence of the individual options, from the lowest to the highest. The following list shows the order in which the switch implements configured security features on traffic moving through a given port.

1. Disabled/Enabled physical port
2. MAC lockout (Applies to all ports on the switch.)
3. MAC lockdown
4. Port security
5. Authorized IP Managers
6. Application features at higher levels in the OSI model, such as SSH.

(The above list does not address the mutually exclusive relationship that exists among some security features.)

The Management VLAN IP Address

The optional Management VLAN, if used, must be configured with a manual IP address. It does not operate with DHCP/Bootp configured for the IP address.

Interoperating with 802.1s Multiple Spanning-Tree

The ProCurve implementation of Multiple Spanning-Tree (MSTP) complies with the IEEE 802.1s standard and interoperates with other devices running compliant versions of 802.1s. Note that the ProCurve Series 9300 routing switches do not offer 802.1s-compliant MSTP. Thus, to support a connection between a 9300 routing switch and a 3400cl switch running MSTP, configure the 9300 with either 802.1D (STP) or 802.1w (RSTP). For more information on this topic, refer to the chapter titled "Spanning-Tree Operation" in the *Advanced Traffic Management Guide* for your 3400cl switch. (To download switch documentation, refer to "Software Updates" on page 1.)

Rate-Limiting

The configured rate limit on a port reflects the permitted forwarding rate from the port to the switch fabric, and is visible as the *average* rate of the outbound traffic originating from the rate-limited port. (The most accurate rate-limiting is achieved when using standard 64-byte packet sizes.) Also, rate-limiting reflects the available percentage of a port's entire inbound bandwidth. The rate of inbound flow for traffic of a given priority and the rate of flow from a rate-limited port to a particular queue of an outbound port are not measures of the actual rate limit enforced on a port. Also, rate-limiting is byte-based and is applied to the available bandwidth on a port, and not to any specific applications running through the port. If the total bandwidth requested by all applications together is less than the available, configured maximum rate, then no rate-limit can be applied. This situation occurs with a number of popular throughput-testing software applications, as well as most regular network applications.

As a performance consideration, implementing rate-limiting in heavy traffic situations involving QoS, can affect overall performance. For more information on rate-limiting operation, refer to "Operating Notes for Rate-Limiting" in the chapter titled "Optimizing Traffic Flow with Port Controls, Port Trunking, and Filters" of the *Management and Configuration Guide* for your ProCurve Series 3400cl switch. (To download switch documentation, refer to "Software Updates" on page 1.)

OS/Web/Java Compatibility Table

The switch web agent supports the following combinations of OS browsers and Java Virtual Machines:

Operating System	Internet Explorer	Java
Windows NT 4.0 SP6a	5.00 5.01 5.01, SP1 6.0, SP1	Sun Java 2 Runtime Environment: – Ver 1.3.1.12 – Ver. 1.4.2.05
Windows 2000 Pro SP4	5.05, SP2 6.0, SP1	
Windows XP Pro SP1a	6.0, SP1	
Windows Server SE 2003	6.0, SP1	

Software Fixes in Release M.08.51 - M.08.*xx*

Release M.08.51 was the first software release for the ProCurve 3400cl Series.

Release M.08.62 was the first software release for the ProCurve 6400cl Series.

Release M.08.62

Problems Resolved in Release M.08.62

- **Crash (PR_1000207542)** — The switch may crash with a bus error or task hang.
- **Crash (PR_1000216170)** — The switch crashes with an `mftTask Bus Error` whenever a user attempts to upload the startup-configuration from a TFTP server. The switch accepts the command with no errors, however the system immediately crashes after the reboot.
- **Jumbo/Flow control (PR_1000217576)** — When the switch is configured for both flow control and jumbo packets, an Error Message is not generated as stated in the instruction manual.
- **Port Security (PR_1000203984)** — When the limit is reached, the warning message is displayed: `Number of configured addresses on port` *`xx`* `exceeds address-limit.` The address is saved and displayed in the address list of **Show Port-security *xx***. Data from the added address is passed by the switch.

Release M.08.61

Problems Resolved in Release M.08.61

- **802.1s (PR_1000207608)** — After the root bridge is agreed, the non-root switch continues to send out BPDUs claiming to be Root, resulting in possible instability in the STP topology.
- **ACL (PR_1000207620)** — TCP and UDP traffic is sometimes incorrectly permitted through an ACL.
- **CDP (PR_1000195343)** — Entering the command **show cdp neighbor detail *x*** (where ***x*** is the port number) displays details for all active ports with CDP neighbors whose numbers begin with ***x***. Only occurs when the **detail** parameter is included.
- **CDP/LLDP (PR_1000201275)** — The CDP/LLDP text output has been improved with the following two changes:

  1. In **show LLDP config** output, `LLDP refresh interval` is renamed to `LLDP Transmit Interval`.
  2. In **show CDP** the `Yes` is changed to `Yes,(Receive Only)`.

- **CLI (PR_1000192677)** — **Show access-list ports <tab>** does not list the `all` keyword. The command only shows `[PORT-LIST]` as input for the command.
- **Console/TELNET (PR_1000195647)** — When a console or TELNET session hangs, issuing the 'kill' command also hangs.
- **Crash (PR_1000193582)** — Software Exception when clicking on the Identity Tab of a Member Switch in the Web user interface. The switch may crash with a message similar to: `Software exception at http_state.c:1138 in 'mHttpCtrl' TaskID = 0x1722cf8.`
- **Crash (PR_1000196129)** — Removing the J8434A module (10Gigabit) creates configuration problems and sometimes causes the switch to crash.
- **Crash (PR_1000199535)** — Sometimes the command **show boot-history** results in a bus error. (pre-release)
- **Crash (PR_1000201614)** — When the switch is set with a 16-character manager password in the setup menu, a 'Bus error' crash may occur. The bus errors vary.
- **Crash (PR_1000204782)** — Bus error when copying a configuration to the switch. The switch may crash with a message similar to: `Bus error: HW Addr=0x594f5531 IP=0x004ff8a8 Task='mftTask' Task ID=0x126eba0 fp: 0x00000000 sp:0x0126e7d0 lr:0x001e655c.`
- **IP Addmgr (PR_1000200338)** — CPU-based protocol stops working. The memory corruption of text caused many tasks to hang or be SUSPENDED, since the switch is trying to execute invalid instructions.
- **MIB (PR_1000206519)** — The RFC 3636 MIB implemented is not correct. (pre-release)
- **Open VLAN (PR_1000210932)** — Open VLAN mode (Unauth VLAN) does not work with any Port-Security Learn-Mode.
- **Port toggle (PR_1000216940)** — 10 Gigabit, CX4 port toggles (that is, Link up, Link down, and so on). (pre-release)
- **QOS (PR_1000200746)** — Configure a dscp-map name that requires quotes such as "Code Point 0". Save this name in the configuration file and reboot the switch, the name is truncated to "Code".
- **QOS (PR_1000213489)** — The command **show QOS resources** displays blank information for the 10 Gigabit module.
- **SNMP (PR_1000196170)** — Traps are not buffered before the IP stack is initialized, causing the possibility of missing some traps generated during startup.

- **Syslog (PR_1000215699)** — Pre-boot event log messages are cached for syslog and syslog is only able to send those cached entries after the switch fully boots. The cache size is limited, so in some cases, not all event log messages will be sent via syslog.
- **Web UI (PR_1000177915)** — Device View from the Web user interface is missing.
- **Web UI/Port Security (PR_1000195894)** — The Web user interface does not allow the user to select multiple ports when configuring port-security.

Release M.08.55 - Release M.08.60

Releases M.08.55 through M.08.60 were never built.

Release M.08.54

Problems Resolved in Release M.08.54

- First release to fully support LR and CX4 transceivers installed in the optional cl Module (J8434A and J8435A).

Release M.08.53 (Never Released)

Problems Resolved in Release M.08.53

- Updated Boot ROM image to I.08.03 to address Manufacturing test condition.

Release M.08.52

Problems Resolved in Release M.08.52

- Updated Boot ROM image to I.08.02 to address Manufacturing test condition.

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5990-8860