ProCurve Networking

HP Innovation

Release Notes:
Version K.11.17 Software
for the ProCurve Series 3500yl and 5400zl Switches

The K.11.1x software supports these switches:

■ ProCurve Switch 3500yl-24G-PWR (J8692A) and 3500yl-48G-PWR (J8693A)

■ ProCurve Switch 5406zl (J8697A), 5412zl (J8698A), and 5406zl-48G (J8699A)

These release notes include information on the following:

■ Downloading switch software and documentation from the Web (page 1)

■ Clarification of operating details for certain software features (page 8)

■ A listing of software enhancements in this release (page 10)

■ A listing of software fixes included in releases K.11.11 through K.11.17 (page 11)

Related Publications

For the latest version of any of the publications listed below, visit the ProCurve Networking Web site at **http://www.procurve.com**. Click on **Technical support**, then **Product manuals**.

■ Management and Configuration Guide*

■ Advanced Traffic Management Guide*

■ Multicast and Routing Guide*

■ Access Security Guide*

  *Covers the ProCurve Series 3500yl and Series 5400zl switches.

Publication Number

Applicable Products

ProCurve Switch 3500yl-24G-PWR Intelligent Edge (J8692A)
ProCurve Switch 3500yl-48G-PWR Intelligent Edge (J8693A)
ProCurve Switch 5406zl   (J8697A)
ProCurve Switch 5412zl   (J8698A)
ProCurve Switch 5406zl-48G   (J8699A)

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Software Credits

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)

Disclaimer

Warranty

Contents

Software Management

Premium Edge Switch Software Features

The ProCurve 3500yl and 5400zl switches ship with the ProCurve Intelligent Edge software feature set. The additional Premium Edge switch software features for the 3500yl and 5400zl switches can be acquired by purchasing the optional Premium Edge license and installing it on the Intelligent Edge version of these switches. As of April, 2006, the Premium Edge features include the following:

- OSPF
- PIM Dense mode
- PIM Sparse mode
- VRRP

Part numbers for the Premium Edge licenses are:

- 3500yl switches: J8993A
- 5400zl switches: J8994A

To purchase a Premium Edge license, go to the following web page and click on **How To Buy**.

   http://www.hp.com/rnd/accessories/J8994A/accessory.htm

You can find a listing of Intelligent Edge and Premium Edge features (and identify the corresponding manual for each feature) in the "Software Feature Index for the ProCurve Series 3500yl/5400zl/6200ylSwitches", available on the ProCurve "Manuals" website. To access this publication, go to:

   http://www.hp.com/rnd/support/manuals/index.htm,

and click on one of the following links:

- **ProCurve Switch 3500yl and 6200yl series**
- **ProCurve Switch 5400zl series**

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.procurve.com.

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.procurve.com**.

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.procurve.com**). 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:

  • Select **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:

  • Select **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 5).

■ Use the download utility in ProCurve Manager Plus.

N o t e

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 K_11_1x.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 K_11_1x.swi
The primary OS image will be deleted. continue [y/n]? Y
03125K
```

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

```
Validating and Writing System Software to FLASH...
```

3. When the CLI prompt re-appears, the switch is ready to reboot to activate the downloaded software:

4. Use the **show flash** command to verify that the new software version is in the expected flash area (primary or secondary)

5. Reboot the switch from the flash area that holds the new software (primary or secondary).

   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 to a PC operating as a terminal. (Refer to the Installation and Getting Started 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 HyperTerminal application included with Windows NT, you would use the Send File option in the Transfer dropdown menu.)

Using Xmodem and a terminal emulator, you can download a switch software file to either primary or secondary flash using the CLI.

> Syntax: `copy xmodem flash [< primary | secondary >]`

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.)

   Changing the console baud-rate requires saving to the Startup Config with the "write memory" command. Alternatively, you can logout of the switch and change your terminal emulator speed and allow the switch to AutoDetect your new higher baud rate (i.e. 115200 bps)

2. Execute the following command in the CLI:

   ```
   HPswitch # copy xmodem flash primary
   The primary OS image will be deleted. continue [y/n]? Y
   Press 'Enter' and start XMODEM on your host...
   ```

3. Execute the terminal emulator commands to begin the Xmodem transfer. For example, using HyperTerminal:
   a. Click on Transfer, then Send File.
   b. Type the file path and name in the Filename field.
   c. In the Protocol field, select Xmodem.
   d. Click on the Send button.

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

4. 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.)

5. Use the **show flash** command to verify that the new software version is in the expected flash area (primary or secondary)

6. Reboot the switch from the flash area that holds the new software (primary or secondary).

   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.

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, Routing Switch, and Router Software Keys

Software Letter	ProCurve Switch, Routing Switch, or Router
C	1600M, 2400M, 2424M, 4000M, and 8000M
CY	Switch 8100fl Series (8108fl and 8116fl)
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.07.81 and earlier, or H.08.55 and greater, Switch 2600-8-PWR requires H.08.80 or greater.
H	Switch 6108: H.07.xx and earlier
I	Switch 2800 Series (2824 and 2848)
J	Secure Router 7000dl Series (7102dl and 7203dl)
K	Switch 3500yl Series (3500yl-24G-PWR and 3500yl-48G-PWR), and 5400zl Series (5406zl, 5406zl-48G, 5412zl, and 5412zl-96G)
L	Switch 4200vl Series (4204vl, 4202vl-48G, 4202vl-72, 4208vl, 4208vl-64G, and 4208vl-96)
M	Switch 3400cl Series (3400cl-24G and 3400cl-48G) and 6400cl Series (CX4 6400cl-6XG and X2 6410cl-6XG)
N/A	Switch 9408sl, 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.)

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: – Version 1.3.1.12 – Version 1.4.2.05
Windows 2000 Pro SP4	5.05, SP2 6.0, SP1	
Windows XP Pro SP2	6.0, SP1	Sun Java 2 Runtime Environment: – Version 1.5.0.02
Windows Server SE 2003 SP1	6.0, SP1	

Clarifications and Updates

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.)

Interoperating with 802.1s Multiple Spanning-Tree

The ProCurve implementation of Multiple Spanning-Tree (MSTP) in software release E.08.*xx* and greater 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 3500yl or 5400zl 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 "Multiple Instance Spanning-Tree Operation" in the *Advanced Traffic Management Guide* (part number 5991-3827, January 2006 or later). (To download switch documentation for software release K.11.17, 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 backplane, 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.

Enhancements

Unless otherwise noted, each new release includes the enhancements added in all previous releases.

Release K.11.13 through K.11.17 Enhancements

No enhancements, software fixes only.

Release K.11.12 Enhancements

MSTP Default Path Cost Controls

Summary: 802.1D and 802.1t specify different default path-cost values (based on interface speed). These are used if the user hasn't configured a "custom" path-cost for the interface. The default of this toggle is to use 802.1t values. The reason one might set this control to 802.1D would be for better interoperability with legacy 802.1D STP (Spanning Tree Protocol) bridges.

To support legacy STP bridges, the following commands (options) have been added to CLI:

> **spanning-tree legacy-path-cost** – Use 802.1D values for default path-cost
>
> **no spanning-tree legacy-path-cost** – Use 802.1t values for default path-cost

> The "legacy-path-cost" CLI command does not affect or replace functionality of the "spanning-tree force-version" command. The "spanning-tree force-version" controls whether MSTP will send and process 802.1w RSTP, or 802.1D STP BPDUs. Regardless of what the "legacy-path-cost" parameter is set to, MSTP will interoperate with legacy STP bridges (send/receive Config and TCN BPDUs).

When legacy-path-cost control is toggled, all default path costs will be recalculated to correspond to the new setting, and spanning tree is recalculated if needed.

Software Fixes in Release K.11.12 - K.11.17

Unless otherwise noted, each new release includes the software fixes added in all previous releases.

Release K.11.11 was the first production software release for the ProCurve 3500yl and 5400zl Series switches.

Release K.11.17

The following problems were resolved in release K.11.17

■ **Stacking (PR_1000298299)** - The Stack Commander setting is not written to the configuration file, so Web/Stacking does not work.

Release K.11.16

The following problems were resolved in release K.11.16 (never released)

■ **10 GbE module (PR_1000321201)** — The Switch 3500yl X2/CX4 10-GbE module (J8694A) may not work correctly with a maximum length CX-4 cable attached.

Release K.11.15

The following problems were resolved in release K.11.15 (never released)

■ **CLI (PR_1000298299)** — After a reboot, the Switch does not provide warning that the running configuration and startup configuration differ, and does not offer an option to save the running configuration.

■ **CLI (PR_1000315256)** — Inconsistent error message, "`Resource unavailable`," when configuring more than the maximum number of allowed static IP routes.

■ **Crash (PR_1000322009)**— The Switch may crash with a message similar to:

    Software exception in ISR at queues.c:123.

■ **Menu (PR_1000318531)** — When using the Menu interface, the Switch hostname may be displayed incorrectly.

Release K.11.14

The following problems were resolved in release K.11.14 (never released)

■ **SNMP (PR_1000315054)** — SNMP security violations are entering the switch syslog when a valid SNMPv3 "get" operation is initiated.

■ **Web (PR_1000302713)** — When using the web interface and a large amount of stacking interactions occur, portions of the information from the stack commander may no longer appear.

Release K.11.13

The following problems were resolved in release K.11.13 (never released)

■ **Routing (PR_1000306239)** — In some cases, the command "show ip route" may display incorrect information.

■ **Self-test (PR_1000315509)** — The self-test LED does not turn off after bootup of an empty chassis.

■ **sFlow (PR_1000317785)** — Using Inmon Traffic Server, traffic will be reported on ports with no traffic present. Other ports may or may not have faulty counter reports.

Release K.11.12

The following problems were resolved in release K.11.12 (never released)

■ **ACL/QoS (PR_1000317233)** — Under some circumstances, the Switch may apply an ACL or QoS configuration setting incorrectly.

■ **Configuration/Security (PR_1000316441)** — Operator level can save Manager privilege level changes to the configuration.

■ **Crash Log (PR_1000309533)** — Incorrect crash message displayed in the log, "Too many HSL interrupts".

■ **Crash (PR_1000317489)** — Changing the QoS/ACL portion of the running configuration may cause a switch module to crash with a message similar to:

```
CL Int status=0x10000000
```

■ **Gig-T SFP Modules (PR_1000316433)** — The switch accepts a Gig-T SFP dual personality module when it should not accept these modules. Is this category name correct?

■ **Help file enhancement (PR_1000300491)** — Added support for Help files. Switch can provide a navigation pane on the left side of the screen containing 'Contents' and 'Search' capability.

■ **10 Gig Transceiver (PR_1000317965)** — Switch reports incorrect Link status when a defective fiber cable is connected to the Switch.

- **LED (PR_1000316434)** — If a mini-GBIC is installed during switch bootup, that port's link LED will not turn on.

- **MSTP Enhancement (PR_1000310463)** — Implementation of legacy path cost MIB and CLI option for MSTP.

- **RSTP (PR_1000307278)** — Replacing an 802.1D bridge device with an end node (non-STP device) on the same Switch port, can result in the RSTP Switch sending TCNs.

- **Web UI (PR_1000303371)** — In the Web User Interface, the QOS Device Priority window scroll bar does not allow sufficient scrolling to view all entries.

- **Web UI (PR_1000311917)** — When the last port on the last card is configured in a trunk or mesh, and a user browses to a specific location in the Web user interface, the HTTP web server degrades the switch, causing the Web user interface to hang.