Chapter 1
Getting Started

Introduction

This guide describes how to install, configure, and monitor the following devices:

- HP ProCurve Routing Switch 9308M
- HP ProCurve Routing Switch 9304M
- HP ProCurve Routing Switch 6308M-SX
- HP ProCurve Switch 6208M-SX

This guide also describes how to monitor these products using statistics and summary screens.

Audience

This guide assumes that you have a working knowledge of Layer 2 and Layer 3 switching and routing. You also should be familiar with the following protocols if applicable to your network—IP, RIP, OSPF, BGP4, IGMP, PIM, DVMRP, IPX, AppleTalk, SRP, and VRRP.

Nomenclature

This guide uses the following typographical conventions:

Italic	highlights the title of another publication and occasionally emphasizes a word or phrase.
Bold	highlights a CLI command.
Bold Italic	highlights a term that is being defined.
Underline	highlights a link on the Web management interface.
Capitals	highlights field names and buttons that appear in the Web management interface.

NOTE: A note emphasizes an important fact or calls your attention to a dependency.

WARNING: A warning calls your attention to a possible hazard that can cause injury or death.

CAUTION: A caution calls your attention to a possible hazard that can damage equipment.

Terminology

The following table defines basic product terms used in this guide.

Product Terms

Term	Definition
chassis or **Chassis device**	A switch or routing switch that accepts optional modules or power supplies.
Stackable device	A device that contains a fixed configuration of ports, instead of swappable modules. The HP 6208M-SX switch and HP 6308M-SX routing switch are Stackable devices.
routing switch or **router**	A Layer 2 and Layer 3 device that switches and routes network traffic. The term *router* is sometimes used in this document in descriptions of a routing switch's Layer 3 routing protocol features.
switch	A Layer 2 device that switches network traffic.

`HP9300`
or
`HP6208`
or
`HP6308`
	An example Command Line Interface (CLI) prompt. Actual prompts show the product number for the device, such as `HP9304`.

Related Publications

The following product documentation is available for your HP switch or routing switch:

- ***Read Me First*** *for the HP ProCurve Routing Switches 9304M, 9308M, and 6308M-SX, and the HP ProCurve Switch 6208M-SX*—This document includes software update information, the parts list for your HP ProCurve device, and other product information. Updates to this document are published on the World Wide Web from time to time, and may include additional troubleshooting, errata, and operating notes. To check for the latest version of *Read Me First*, go to HP's ProCurve website at **www.hp.com/go/procurve**, select **Technical Support**, and then **Manual**.
- ***Book 1: Installation and Getting Started Guide***. Book 1 contains the product Safety and EMC Regulatory statements as well as installation, security, and basic configuration information. A printed copy of this guide is included with your HP product. An electronic copy is also included as a PDF (Portable Document Format) file on the CD shipped with your HP product.
- ***Book 2: Advanced Configuration and Management Guide***. Book 2 contains advanced configuration information for routing protocols, Spanning Tree Protocol (STP), Quality of Service (QoS), and Virtual LANs (VLANs). In addition, appendixes in this guide contain reference information for network monitoring, policies and filters, and software and hardware specifications. This manual is included in a PDF (Portable Document Format) file on the CD shipped with your HP product. You also can order a hardcopy version of this manual. For ordering information, see the *Read Me First* document shipped with your HP product.
- ***Book 3: Command Line Interface Reference***. The Command Line Interface Reference provides a dictionary of CLI commands and syntax. An electronic copy of this reference is included as a PDF (Portable Document Format) file on the CD shipped with your HP product.

- ***Documentation CD for the HP ProCurve Routing Switches 9304M, 9308M, 6308M-SX, and the HP ProCurve Switch 6208M-SX***—This CD contains PDF files for Book 1, Book 2, and Book 3, and provides a method for electronically searching either individual chapters or an entire manual for specific topics. For a brief description of the CD contents and how to use the CD to save time, do the following:

1. Insert the CD in your PC's CD-ROM drive.
2. Using the file manager in your PC, select the drive containing the CD and display the CD's directory.
3. Do either of the following:
    - Use Adobe® Acrobat® Reader to display the **README.pdf** file in the CD's root directory.
    - Use a compatible text editor to display the **README.txt** file in the CD's root directory.

- **Manual Supplement**—These documents are included with your HP device if the software shipped with the device includes feature upgrades that were added after the last revision of the manual. They are also included with software upgrades when available on the World Wide Web. To check for the latest software version, go to HP's ProCurve website at **www.hp.com/go/procurve** and select **Free Software Updates**.
- **Support is as Close as the World Wide Web!**—Included with your HP switch or routing switch, this document is a guide to HP support services and also provides information on your HP networking product warranty.

The documentation CD may also contain one or more device or network management (HP TopTools for Hubs & Switches) software files and a Readme.txt file explaining the contents of such files.

What's New in this Edition?

This edition and the February 2000 editions of the *Advanced Configuration and Management Guide* and *Command Line Interface Reference* contain descriptions of the following new features.

Chassis Hardware Enhancement

This guide includes information about the following new hardware:

- J4842 HP ProCurve 9300 1000Base-T Module (8-port)

Layer 3 Enhancements

The following enhancements are available beginning with software release 06.6.x or later (included either in the HP device with which this guide was shipped or related management modules).

- The IP ARP table size has been increased to 64k
- IP load sharing is enabled by default
- "Null" static IP routes
- Support for default network route
- Enhancements to **clear ip route** command
- Change to default for forwarding redirected broadcasts (now disabled by default instead of enabled)
- Option to disable forwarding of IP source-routed packets
- Default router ID is the lowest numbered loopback interface
- Enhanced BGP4 and OSPF route redistribution options
- Support for administratively disabling virtual interfaces
- IP static route enhancements:
    - Index number (static route number entered when the route is configured) no longer required or supported
    - Support for multiple static routes to the same destination
    - Static routes follow port states

- Enhancement to the **show ip interface** command – The output of this command has changed. The command now displays a table summarizing IP status and configuration information for all interfaces.
- BGP4 enhancements:
  - Route flap dampening
  - Advanced BGP4 route filtering using Access Control Lists (ACLs) and prefix lists
  - AS confederations
  - Multiple path load sharing
  - BGP4 start-failure event and neighbor state change events
  - Route map enhancements for matching on AS-paths, communities, destination networks, and next-hop routers
  - Neighbor configuration enhancements
  - New commands and Web management options to display AS-path ACLs, community lists, IP prefix lists, and route filter lists
  - Help messages and performance enhancements for regular expressions
  - "Longer" option with **show ip bgp** command
  - Support for multiple community names when configuring route maps and community filters
  - Changes to the default maximum numbers of neighbors, routes, and route attributes on HP 9304M or HP 9308M routing switches (see the "Memory Considerations" section in the "Configuring BGP4" chapter for details)
  - Support for Time-to-Live (TTL) for neighbors that are multiple hops away (EBGP multi-hop neighbors)
  - Support for overriding the global Keep Alive and Hold Time values on an individual neighbor basis
  - New CLI commands and Web management option to shut down a BGP4 neighbor without removing configuration information for the neighbor
  - There is no longer a default local AS. You must specify the local AS number to enable BGP4 routing.
  - Community names now consist of two integer values of up to five digits, each joined by a colon. For example, 12345:67890 is a valid community name.
  - You can configure up to 600 networks. Previous software releases allowed you to configure only up to 200 networks.
- OSPF enhancements
  - Not-So-Stubby Areas (NSSAs)
  - No-summary option for stub areas
  - Route summarization
  - Default-information originate option
  - Configurable administrative distances for OSPF route types
  - Blocking of LSA floods on individual interfaces
  - Configurable Shortest Path First (SPF) calculation timers
  - Passive interface option
  - Change to OSPF **area** command
  - Enhancements to **show ip ospf neighbor** display
  - Change to default OSPF load sharing state (from disabled to enabled)

- IP Multicast enhancements
  - Support for PIM Sparse (PIM-SM)
  - You can configure a static route for incoming multicast traffic
  - You can trace the path from the routing switch to a specified source IP address and multicast group address (mtrace)
  - You can query another multicast router for its multicast configuration information (mrinfo)

  NOTE: These enhancements apply only to PIM, not to the Distance Vector Multicast Routing Protocol (DVMRP).

- IPX enhancements
  - IPX SAP access lists
  - IPX GNS enhancements
- AppleTalk ARP age is now a global parameter instead of an interface parameter
- VRRP enhancements
  - The maximum number of Virtual Router Redundancy Protocol (VRRP) virtual router IDs (VRIDs) is increased from 4 to 12.
  - Changes to keepalive parameter for VRRP backup routers

Layer 2 Enhancements

The following enhancements apply to routing switches and switches.

- Fast Port Span
- Fast Uplink Span
- Single-instance STP

System-Level Enhancements

The following enhancements apply to all HP routing switches and switches unless otherwise noted.

- IP Access Control Lists (ACLs)
- Configurable Quality of Service (QoS) bandwidth profiles and traffic groups
- Maximum size of the startup-config file increased from 64k to 128k to accommodate very large configurations.
- Enhancement to **reload** command that prompts you if configuration changes have not been saved
- Enhancement to interface configuration displays
- Encrypted display of SNMP community strings
- Route-only option available on individual interface basis
- An IP ping sent to the IP broadcast address lists the first four responses by default
- Traceroute requests display all responses to a given TTL. In addition, if there are multiple equal-cost routes to the destination, the HP device displays up to three responses by default.
- Web management interface display enhancements
- New command for disabling Web management access authentication

- CLI enhancements:
  - Command Line Interface (CLI) context-sensitive help and command descriptions
  - Option to kill Telnet sessions
  - CLI serial session timeout
  - You can clear statistics on individual modules or ports.
  - The command prompt at the Interface configuration level shows the port speed for Ethernet ports.
  - Commands such as **ip route** that accept an IP network mask as a parameter accept Classless Interdomain Routing (CIDR) notation (for example, 209.157.22.110/24 instead of 209.157.22.110 255.255.255.0). In previous releases, only some commands supported the CIDR notation.
  - The **show running-config** command display SNMP community strings and passwords when the command is entered from the Privileged EXEC mode, but does not display them when entered from the User EXEC mode.
  - The **show interfaces** command displays detailed information for all interfaces.
  - A new command, **show interfaces brief**, shows only the Layer 2 information for the interfaces.
- SNMP enhancements
  - Support for SNMPv2
  - Support for the ifXTable object described in RFC 2233 (IF-MIB). This object supports high capacity counter objects (64-bit counters) for network traffic statistics.
- Syslog enhancements:
  - You can dynamically change the size of the Syslog buffer; this no longer requires you to reload the software.
  - You can enable logging on a configured ACL or filter that supports logging by re-entering the ACL or filter configuration command and adding **log** to the end.
  - Power supply and temperature sensor log entries reside in a separate, permanent buffer.
  - Syslog messages contain more interface information.
  - Traps that occur while an interface is coming up are saved and logged when the interface comes up.
  - Changes saved to the startup-config file are logged.
  - New log messages log RIP filter activity.
  - New Syslog messages to indicate neighbor state changes, when a neighbor goes up or down, and when the HP device does not have enough memory to run BGP4

Support and Warranty Information

Refer to *Support is as Close as the World Wide Web*, which was shipped with your HP switch or routing switch.