HP Switch Software
Comware CLI Commands in ProVision Software

Abstract

Applicable Products

HP 3500	HP 3800	HP 2910al	HP 2615	HP 2620
HP 3500yl			HP 2915	
HP 5400zl				
HP 6200yl				
HP 6600				
HP 8200zl				

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Applicable Products

HP 2615 Switches (J9565A)

HP 2620 Switches (J9623A, J9624A, J9625A, J9626A, J9627A)

HP 2910al Switches (J9145A, J9146A, J9147A, J9148A)

HP 2915 Switches (J9562A)

HP 3500 Switches (J9470A, J9471A, J9472A, J9473A)

HP 3500yl Switches (J8692A, J8693A)

HP 3800 Switches (J9573A, J9574A, J9575A, J9576A, J9584A, J9585A, J9586A, J9587A, J9588A)

HP 5400zl Switches (J8697A, J8698A, J9447A, J9448A)

HP 6200yl Switch (J8992A)

HP 8200zl Switches (J9475A, J8715A/B)

HP 6600 Switches (J9263A, J9264A, J9265A, J9451A, J9452A)

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Contents

Product Documentation

About Your Switch Manual Set

NOTE: For the latest version of all HP switch documentation, including Release Notes covering recently added features, please visit the HP Networking web site at www.hp.com/Networking/support.

Electronic Publications

The latest version of each of the publications listed below is available in PDF format on the HP Networking web site, as described in the Note at the top of this page.

- *Installation and Getting Started Guide*—Explains how to prepare for and perform the physical installation and connect the switch to your network.
- *Basic Operation Guide*—Describes how to use the switch interfaces and introduces basic operations.
- *Management and Configuration Guide*—Describes how to configure, manage, and monitor basic switch operation.
- *Advanced Traffic Management Guide*—Explains how to configure traffic management features such as VLANs, MSTP, QoS, and Meshing.
- *Multicast and Routing Guide*—Explains how to configure IGMP, PIM, IP routing, and VRRP features.
- *Access Security Guide*—Explains how to configure access security features and user authentication on the switch.
- *IPv6 Configuration Guide*—Describes the IPv6 protocol operations that are supported on the switch.
- *Command Line Interface Reference Guide*—Provides a comprehensive description of CLI commands, syntax, and operations.
- *Event Log Message Reference Guide*—Provides a comprehensive description of event log messages.
- *Comware CLI Commands in Provision Software*—Lists and describes the Comware CLI commands supported in ProVision Software.
- *Release Notes*—Describe new features, fixes, and enhancements that become available between revisions of the main product guide.

1 Introduction To the ProVision CLI

Comware Command Support in ProVision Software

The selected Comware CLI commands described in this guide are included in the ProVision software CLI to help Comware-experienced network management staff learn to use the ProVision software CLI with a minimum of effort.

This edition of *Comware CLI Commands in ProVision Software* describes the operation and output of selected Comware **display** commands added to the ProVision software. Included are related ProVision software commands and references to further information on configuring the features reflected in the **display** command output.

Refer to the latest release notes for your switch product to determine whether Comware commands are supported.

HP Networking Switches Running Comware Software			HP Networking Switches Running ProVision Software with Comware CLI Commands Included*				
3100	5120 El	5820	3500	3800	2910al	2615	2620
3300	5120 SI	5830	3500 yl			2915	
3600	5500	5900	5400 zl				
3610	5500 E	7500	6200 yl				
4200G	5500 HI	9500	6600				
4210	5500 SL	10500	8200 zl				
4210G	5500G	12500					
4500G	5800						
4510G	5810						
4800G							
*As of October, 2012. Supported commands depend on software version running on the switch.							

Commands Added to the Software Over Several Releases. The Comware command set available on your switch is determined by the code version it is running. Each command description in this guide includes the minimum software version supporting that command. For example, a minimum version of 15.10 means that a switch running K-code must be using Release K.15.10 or greater and a switch running RA-code must be using RA.15.10 or greater.

Listing Display Commands in the CLI

Use this command: `display ?`

For example:

```
HP Switch> display ?
 boot-loader            Display boot loader information
 clock                  Clock status and configuration information.
 command-alias          Display command alias
 debugging              Current setting of debugging switches.
 dns                    DNS status and configuration information
 gvrp                   GARP VLAN Registration Protocol
 history-command        The historical command information.
 igmp                   IGMP status and configuration information
 ip                     Specify IP(Internet Protocol) configuration information.
 lacp                   Display LACP protocol information
 link-aggregation       Display Link-aggregation information
 memory                 Display memory information.
```

```
 mld                    MLD status and configuration information.
 ospf                   Open Shortest Path First (OSPF)
 ospfv3                 Open Shortest Path First for IPv6 (OSPFv3)
 schedule               Schedule system task
 snmp-agent             SNMP status and configuration information
HP Switch> display
```

CLI Operation

Comparing Comware and ProVision Commands

Comware **display** commands and ProVision software **show** commands produce status information used for monitoring, troubleshooting, and auditing the switch network environment and configuration.

- Like **show** commands, using **display** commands does not change the switch operating mode.
- Comware display commands are additional commands supported in ProVision software, and do not replace any existing ProVision commands.

Output Differences Between Display and Show commands

The output fields from **display** commands and their **show** command counterparts include differences in the names, numbers and types of information fields. For example the results for the following commands have two instances where there is not a comparable mapping between Comware and ProVision:

Comware	Related ProVision
display dns < domain | server >	show ip dns
	show ip

DNS Field Mappings

Comware	Related ProVision
No.	*n/a*
DNS Server	Priority
Type	DNS Mode
Domain-name	Domain Suffix
IP Address	DNS Server Addresses
n/a	DNS Servers Configured

Using both the **display** commands and their **show** command counterparts can in some cases result in more information output than using only one or the other.

In some cases, a field populated in Comware **display** output is not populated in the corresponding **display** output in ProVision software. This is often due to MIB (Management Information Base) differences between Comware and ProVision software. Also, in rare cases, the Comware **display** output in ProVision software includes fields that are not included in the same **display** command output in Comware software.

Using CLI Context Levels

ProVision software operates in these CLI context levels:

Level	Prompt	Context Keyword
Operator	HP Switch>	
Manager	HP Switch#	enable
Global Configuration	HP Switch(config)#	config
Context Configuration	HP Switch(vlan-1)#	vlan n
	HP Switch(eth-A1-A6)#	interface << portx >[-portn] >

Use **exit** to return to the next-highest context level.

Listing Commands Available at Any Context Level. At a given context level you can list and execute the commands that level offers, plus all of the commands available at preceding levels. To list available commands, use the [?] key. For example:

```
HP Switch# show vlans ?
 custom                Show vlan parameters in customized order.
 ports                 Show VLANs that have at least one port from the
                       'PORT-LIST' as a member.
 VLAN-ID               Show detailed VLAN information for the VLAN
                       with the ID supplied.
 <cr>
```

Use the [Tab] or [?] Key To Complete a Command Keyword. You can use **[Tab]** or **[?]** to help you find CLI commands or to quickly complete a keyword. For example:

```
HP Switch(config) # show ip a[Tab]
 aspath-list
 authorized-managers

HP Switch(config) # show ip au[?]
HP Switch(config)# show ip authorized-managers [Enter]

IPV4 Authorized Managers
------------------------
 Address : 10.10.123.39
 Mask    : 255.255.255.255
 Access  : Manager
 Access Method : all
```

Empty Output

In some cases where the MIB is not holding information for a feature, the related display command(s) will return only the system prompt. For example, IGMP can be configured, but no data will be displayed unless one or more multicast groups have been joined. For example, using **display igmp group** when there are no joined multicast groups returns only the system prompt:

```
HP Switch# display igmp group
HP Switch#
```

Further CLI Operating Information

For more information on using the CLI, refer to the chapter titled "Using the Command Line Interface (CLI)" in the latest *Basic Operation Guide* for your switch.

To access the latest software manual set for your switch, visit http://www.hp.com/support/manuals.

2 Display Commands

display acl <acl-number> | name <acl-name>>

Comware	Related Provision
display acl <acl-number> | name <acl-name>>	show access-list <number | name>

Displays configuration and match statistics for the specified or all IPv4 ACLs. This command displays ACL rules in config or depth-first order, whichever is configured.

```
HP Switch# display acl 2001

Basic ACL 2001, named -flow-, 2 rules,
Statistics enabled
ACL's step is 5
 rule 1 permit source 1.1.1.1 0 (5 times matched)
 rule 2 permit source 1.1.1.2 0 (No statistics resource)
```

Field Descriptions

Basic ACL 2001: Category and number of the ACL. The following field information is about IPv4 basic ACL 2001.

named flow: The name of the ACL is flow. "-none-" means the ACL is not named.

2 rules: The ACL contains two rules.

Statistics enabled: The rule match counting is enabled for this ACL.

ACL's step is 5: The rule numbering step is 5.

5 times matched: There have been five matches for the rule. The statistic counts only ACL matches in the packet filter. This field is not displayed when no packets have matched the rule.

No statistics resource: Resources are not enough for counting matches for the IPv4 rules.

This information indicates that the switch failed to allocate resources for counting matches for the rule when you applied the packet-filter command to an interface. Even if resources have become available after that, the switch does not change the information or count matches for the rule. To count matches for the rule, you must delete and then add the rule.

Uncompleted: Applying the rule to hardware failed because no sufficient resources were available or the hardware does not support the rule. This event might occur when you modify a rule in an ACL that has been applied.

Operating Notes

For more information, see the “Access Control Lists (ACLs)” chapter in the latest *Access Security Guide* for your switch.

Minimum Software Version: 15.11.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show access-list 1

Access Control Lists

  Name: 1
  Type: Standard
  Applied: No

 SEQ Entry
-------------------------------------------------------------------------------
```

```
10 Action: deny
   IP    : 0.0.0.0       Mask: 255.255.255.255

20 Action: permit
   IP    : 1.2.3.4       Mask: 0.0.0.255
```

display arp <ip-address>

Comware	Related ProVision
display arp <ip-address>	show arp

Displays ARP entries in the ARP mapping table. If no parameter is specified, all ARP entries are displayed.

```
HP Switch# display arp 20.1.1.1

           Type: S-Static    D-Dynamic   L-Local    I-Invalid    O-Other
IP Address    MAC Address     VLAN ID Interface              Aging Type
20.1.1.1      002347-bbd940   1       1                      n/a   D
```

Field Descriptions

IP Address: IP address in an ARP entry.

MAC Address: MAC address in an ARP entry.

VLAN ID: VLAN ID contained a static ARP entry.

Interface: Outbound interface in an ARP entry.

Aging: Age timer for a dynamic ARP entry in minutes (DIS or N/A indicates that the aging timer is unknown or there is no age timer).

Type: ARP entry type:

- D for dynamic
- S for static
- A for authorized
- M for multiple ports

Vpn-instance Name: Name of VPN instance. [No Vrf] indicates that no VPN instance is configured for the ARP entry.

Operating Notes

For more information, see the "IP Routing Features" chapter in the latest *Multicast and Routing Guide* for your switch.

Minimum Software Version: 15.11.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show arp

 IP ARP table

  IP Address     MAC Address      Type    Port
  -------------- ---------------- ------ ----
  10.10.10.2     abcdef-123456    D      1
```

display arp detection statistics

Comware	Related ProVision
display arp detection statistics	show arp-protection statistics

Displays the statistics of the detected arp.

```
HP Switch# display arp detection statistics

ARP detection is enabled in the following VLANs:

  1-10

  ARP Protection Counters for VLAN 1

   ARPs forwarded  : 0          Bad Sender/Target IP         : 0
   Bad bindings    : 0         Source/Sender MAC mismatches : 0
   Malformed pkts  : 0         Dest/Target   MAC mismatches : 0

  ARP Protection Counters for VLAN 2

   ARPs forwarded  : 0          Bad Sender/Target IP         : 0
   Bad bindings    : 0         Source/Sender MAC mismatches : 0
   Malformed pkts  : 0         Dest/Target   MAC mismatches : 0

  ARP Protection Counters for VLAN 10

   ARPs forwarded  : 0          Bad Sender/Target IP         : 0
   Bad bindings    : 0         Source/Sender MAC mismatches : 0
   Malformed pkts  : 0         Dest/Target   MAC mismatches : 0

  ARP Protection Counters for VLAN 12

   ARPs forwarded  : 0          Bad Sender/Target IP         : 0
   Bad bindings    : 0         Source/Sender MAC mismatches : 0
   Malformed pkts  : 0         Dest/Target   MAC mismatches : 0
```

Example of Related ProVision Software Command Output.

```
HP Switch# show arp-protect statistics

 ARP Protection Counters for VLAN 1
   ARPs forwarded  : 0          Bad Sender/Target IP         : 0
   Bad bindings    : 0         Source/Sender MAC mismatches : 0
   Malformed pkts  : 0         Dest/Target MAC mismatches   : 0
```

Minimum Software Version: 15.10.

display arp ip-address

Comware	Related ProVision
display arp ip-address	show arp

Displays the ARP entry for a specified IP address.

```
HP Switch# display arp 20.1.1.1

      Type: S-Static  D-Dynamic  L-Local   I-Invalid   O-Other

IP Address      MAC Address     VLAN ID   Interface Aging Type
20.1.1.1       002347-bbd940        1         1       n/a   D
```

Example of Related ProVision Software Command Output.

```
HP Switch# show arp
IP ARP table
IP Address      MAC Address       Type    Port
--------------- ----------------- ------- ----
15.255.128.1    00000c-07ac00     dynamic  B1
15.255.131.19   00a0c9-b1503d     dynamic
15.255.133.150  000bcd-3cbeec     dynamic  B1
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display boot-loader

Comware	Related ProVision
display boot-loader	show flash

Displays the current flash memory precedence and the source of the current boot file (software image). The switch has two flash memory locations: primary and secondary. In the **display boot-loader** output:

- `btm.swi` is the primary flash *memory*.
- `secondary.swi` is the secondary flash *memory*.

When the switch is configured with primary flash as the default boot source, this command shows that the primary boot file (software image) is in primary flash (`btm.swi`):

```
HP Switch# display boot-loader
 The next primary boot file of MM is: flash:/cfa0/btm.swi
 The next backup boot file of MM is: flash:/cfa0/secondary.swi
 The current boot file of MM is: flash:/cfa0/btm.swi
```

When the switch is configured with secondary flash as the default boot source, this command shows that the primary boot file (software image) is in secondary flash (`secondary.swi`):

```
HP Switch# display boot-loader
 The next primary boot file of MM is: flash:/cfa0/secondary.swi
 The next backup boot file of MM is: flash:/cfa0/btm.swi
 The current boot file of MM is: flash:/cfa0/secondary.swi
```

Field Descriptions

next primary boot file: The current default flash memory location for the next **reload** or **boot** operation. Can be either the primary or secondary flash.

next backup boot file: The current non-default flash memory location. Can be either the primary or secondary flash.

current boot file: The flash memory location from which the switch was last booted. Can be either primary or secondary flash.

NOTE: "`of MM`" appears in the **display boot-loader** output on switches that support dual memory modules, and refers to the current active (**A**ctv) memory module.

Operating Notes

Both the primary flash and a secondary flash contain a software image. Any valid software image can be loaded into either flash memory.

This command indicates which flash memory is the default when the switch is booted with any of the following commands:

```
reload
boot [system ]
```

To change the flash memory default, use this command:

```
boot set-default flash < primary | secondary >
```

For more on switch memory operation, refer to the "Switch Memory and Configuration" chapter in the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision software Command Output.

```
HP Switch# show flash

 Image              Size (bytes) Date     Version

----------------- ------------ -------- --------------

Primary Image    :   14995368 12/20/11 K.15.07.0003

Secondary Image  :    14995368 12/20/11 K.15.08.0001


Boot ROM Version : K.15.26

Default Boot     : Primary
```

Boot-Loader Field Mappings.

Comware	ProVision software
`btm.swi`	Primary Image
`secondary.swi`	Secondary Image
n/a	Boot ROM Version
current boot file	Default Boot

display clock

Comware	Related ProVision
display clock	show time show system information

Displays the current time, time zone, day, and date setting on the switch.

```
HP Switch# display clock
16:07:27 GMT Mon 03/16/2012
```

Field Descriptions:

Time: Current time in ***HH:MM:SS*** format on the switch.

Time Zone: GMT (default) or the configured time zone.

Day: Mon, Tue, Wed, thu, Fri, Sat, Sun

Date: ***MM/DD/YYYY*** format

Operating Notes

To configure time, date, daylight-time-rule, time zone and other time or date settings on the switch, use the following commands in the **config** context to list the time and date command options:

```
time ?
```

```
clock ?
```

Minimum Software Version: 15.08

Example of Related ProVision Software Command Output.

```
HP Switch# show time
Mon Mar 16 16:07:56 2012
```

The output of the ProVision software **show system information** command includes the switch's time zone and Daylight Time Rule settings.

To configure time and date settings on the switch, use the **clock** and **time** commands in the **config** context. For more information, see the "Time Protocols" chapter in the latest *Management and Configuration Guide* for your switch.

display command-alias

Comware	Related ProVision
display command-alias	show alias

Displays any defined command aliases and their corresponding command assignments configured on the switch. For example, suppose the following aliases are configured:

Alias	Full Command
sst	show startup-config
srun	show running-config

With the above alias configuration, the display output would be as follows:

```
HP Switch(config)# display command-alias
index     alias                          command key
    1     sst                            show startup-config
    2     srun                           show runnning-config
```

Field Descriptions

index: The sequence number for each alias.

alias: The character string.

command key: The command called by the alias.

Operating Notes

To configure an alias in ProVision software, use the following command.

```
alias < alias-name-str > < command-str >
```

For more on the **alias** command, refer to the chapter titled "Using the Command Line Interface (CLI)" in the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision software Command Output.

```
HP Switch(config)# show alias

    Name                              Command
--------------------------------  -------------------------
sst                               show startup-config
srun                              show runnning-config
```

Alias Field Mappings.

Comware	ProVision Software
index	n/a
alias	Name
command key	Command

display counters rate

Comware	Related ProVision
display counters rate	show int <int>

Displays traffic rate statistics over the last 300 seconds. The statistics cover only interfaces in up state.

```
HP Switch# display counters rate outbound interface
Interface Total(pkts/sec) Broadcast(pkts/sec) Multicast(pkts/sec)
A1           84                    0                  42
A2            0                    0                   0

  Overflow: n/a
       --: not supported.

HP-5406zl# display counters rate inbound interface
Interface Total(pkts/sec) Broadcast(pkts/sec) Multicast(pkts/sec)
A1            0                   0                   0
A2           88                   0                  44

 Overflow: n/a
       --: not supported.
```

When all ports are down:

```
HP Switch# display counters rate outbound interface
  No statistics, or no counted interface.
```

Example of Related ProVision Software Command Output.

```
HP Switch# show int custom 1-4 port name:4 type vlan intrusion
speed enabled mdi
Status and Counters - Custom Port Status
                          Intrusion
Port Name Type  VLAN    Alert     Speed    Enabled MDI-mode
---- ---- ----   ------    ------- --------- ------- ------
1    Acco 100/1000T  1    No      1000FDx   Yes     Auto
2    Huma 100/1000T  1    No      1000FDx   Yes     Auto
3    Deve 100/1000T  1    No      1000FDx   Yes     Auto
4    Lab1 100/1000T  1    No      1000FDx   Yes     Auto
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display cpu-usage

Comware	Related ProVision
display cpu-usage	show cpu [slot <SLOT-ID-RANGE> [<time>] | <time>]

Displays average CPU usage statistics for 5 seconds, 1 minute and 5 minutes.

```
HP Switch# display cpu-usage

Master CPU usage:
       6% in last 5 seconds
       4% in last 1 minute
       3% in last 5 minutes
```

Example of Related ProVision Software Command Output.

```
HP Switch# show cpu
2 percent busy, from 2865 sec ago
1 sec ave: 9 percent busy
5 sec ave: 9 percent busy
1 min ave: 1 percent busy

% CPU  | Description
-------+--------------------------
99     | Idle
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display cpu-usage history

Comware	Related ProVision
display cpu-usage history	No equivalent ProVision software command

Displays the history CPU utilization rates in a coordinate plane. The system collects the statistics of history CPU utilization rates at a certain interval and saves the statistics in the history record area. You can use the this command to display the history CPU utilization rates in the last 5 minutes. The history CPU utilization rates are displayed through x and y coordinates.

Any CPU utilization statistics value takes the closest y-coordinate value. For example, a statistics value of 53% is displayed as 55%, and a statistics value of 52% is displayed as 50%.

A number sign (#) shows the CPU utilization rate at a time point. If more than one number sign exists at a time point, the highest one represents the CPU utilization rate of the time point.

```
HP Switch# display cpu-usage history

100%|
 95%|
 90%|
 85%|
 80%|
 75%|
 70%|
 65%|
 60%|
 55%|
 50%|
 45%|
 40%|
 35%|
 30%|
 25%|
 20%|
 15%|
 10%|
  5%|############################################################
    ------------------------------------------------------------
          50      100      150      200      250      300 (seconds)
               cpu-usage last 05 minutes(SYSTEM)
```

Minimum Software Version: 15.10.

display current-configuration configuration

Comware	Related ProVision
display current-configuration configuration	No equivalent ProVision software command

Displays active configuration in the system excluding vlan and interface configuration. This command is available only in manager mode.

```
HP Switch# display current-configuration configuration
hostname "HP-6200yl-24G"
 module 1 type J8992A
 alias "view" "show"
 banner motd "\n"
 radius-server host 10.10.10.1 key "abcd"
 ip access-list extended "grp1"
 exit
 snmp-server community "public" Unrestricted
 no snmpv3 enable
 snmpv3 enable
 snmpv3 group ComOperatorR user "user4" sec-model ver3
 snmpv3 user "initial"
 snmpv3 user "user4"
 aaa port-access authenticator active
 arp-protect
```

Minimum Software Version: 15.10.

display debugging

Comware	Related ProVision
display debugging [*option*]	show debug [buffer [-c < *count* > | -r | *option-str*]]

Displays the options from any of the following lists that have debug logging enabled.

acl	distributed-trunking	ip	lldp	snmp
arp-protect	dynamic-ip-lockdown	ipv6	policy	vrrp
cdp	event	lacp	security	

Using **display debugging** without specifying an option lists all options in the set that are enabled for debug logging. For example, if **acl**, **ip**, **lldp**, and **policy** are enabled for debugging, this command produces the following:

```
HP Switch# display debugging
   ip ospf spf debugging is on
   acl log debugging is on
   lldp log debugging is on
   policy route-map debugging is on
HP Switch#
```

Using **display debugging** with a specific option lists that option if it is enabled for debug logging. If the command returns only the CLI prompt, then the option is not enabled for debug logging. For example, if **acl** is enabled for debug logging and **vrrp** s not, this command produces the following:

```
HP Switch# display debugging
   acl log debugging is on
HP Switch# display debugging vrrp
HP Switch#
```

Operating Notes

To configure debug operation in ProVision software, use the following command.

```
debug < option >
```

For more on configuring **debug** operation, refer to the chapter titled “Troubleshooting” in the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

```
HP Switch# show debug

 Debug Logging

  Source IP Selection: Outgoing Interface
  Destination:
   Memory buffer

  Enabled debug types:
   ip ospf spf
   acl log
   lldp log
   policy route-map
```

Debug Field Mappings.

Comware	ProVision Software
n/a	Source IP Selection
n/a	Destination
debug types listed	Enabled debug types

display default-configuration

Comware	Related ProVision
display default-configuration	No equivalent ProVision software command

Displays factory defaults of the switch, and all commands to be executed when the switch boots with the factory defaults.

```
HP Switch# display default-configuration
; J8693A Configuration Editor; Created on release #K.15.09.0000x
; Ver #03:01.1f.ef:f2
vlan 1
 name "DEFAULT_VLAN"
 ip address dhcp-bootp
 exit
```

Minimum Software Version: 15.10.

display dhcp relay information all

Comware	Related ProVision
display dhcp relay information all	No equivalent ProVision software command

Displays option 82 configuration information on the DHCP relay agent.

```
HP Switch# display dhcp relay information all
Interface: Vlan-interface1
  Status: Disable
  Strategy: Replace
  Format: Normal
  Circuit ID format-type: HEX
  Remote ID format-type: HEX
Interface: Vlan-interface10
  Status: Enable
  Strategy: Replace
  Format: Normal
  Circuit ID format-type: HEX
  Remote ID format-type: HEX
```

Minimum Software Version: 15.10.

display dhcp relay information interface Vlan-interface <vlan-id>

Comware	Related ProVision
display dhcp relay information interface Vlan-interface <vlan-id>	No equivalent ProVision software command

Displays option 82 configuration information on the DHCP relay agent based on vlan.

```
HP Switch# display dhcp relay information interface Vlan-
interface 10
Interface: Vlan-interface10
  Status: Enable
  Strategy: Replace
  Format: Normal
  Circuit ID format-type: HEX
  Remote ID format-type: HEX
```

Minimum Software Version: 15.10.

display dhcp-snooping information

Comware	Related ProVision
display dhcp-snooping information	show dhcp-snooping

Displays information about dhcp snooping when option 82 is enabled.

```
HP Switch# display dhcp-snooping information all
 Interface: A1
    Status: Enable
    Strategy: Drop
    Format: n/a
    Remote ID format-type: HEX
    User defined :
        Remote ID: 0026f1-0faf00
Interface: A2
    Status: Enable
    Strategy: Drop
    Format: n/a
    Remote ID format-type: HEX
    User defined:
        Remote ID: 0026f1-0faf00

... (contd. for all ports)
```

Example of Related ProVision Software Command Output.

```
HP Switch# show dhcp-snooping
DHCP Snooping Information
DHCP Snooping : Yes
Enabled Vlans :
Verify MAC : Yes
Option 82 untrusted policy : drop
Option 82 Insertion : Yes
Option 82 remote-id : mac
Store lease database : Not
Port  Trust
----- -----
B1    No
B2    No
```

Operating Notes

For more information, refer to the latest *Access Security Guide* for your switch.

Minimum Software Version: 15.10.

display dhcp-snooping packet statistics

Comware	Related ProVision
display dhcp-snooping packet statistics	show dhcp-snooping statistics

Displays the statistics of the dhcp snooping packets.

```
HP Switch# display dhcp-snooping packet statistics
 DHCP packets received                    : 2
 DHCP packets send                        : 0
 Packets dropped due to rate limitation : n/a
 Dropped invalid packets                  : 0
```

Example of Related ProVision Software Command Output.

```
HP Switch# show dhcp-snooping statistics

Packet type Action  Reason                          Count

----------- ------- ----------------------------    ---------

server      forward from trusted port                0
client      forward to trusted port                  0
server      drop    received on untrusted port       0
server      drop    unauthorized server              0
client      drop    destination on untrusted port    0
client      drop    untrusted option 82 field        0
client      drop    bad DHCP release request         0
client      drop    failed verify MAC check          0
```

Minimum Software Version: 15.10.

display diagnostic-information

Comware	Related ProVision
display diagnostic-information	show tech

Displays different levels of diagnostic information. This is an alias to the ProVision command **show tech** and shares the same behavior.

```
HP Switch# show tech

show system

Status and Counters - General System Information
System Name         : 5400_1
System Contact      :
System Location     :

MAC Age Time (sec) : 300

Time Zone           : 0
Daylight Time Rule : None

Software revision  : K.14.XX   Base MAC Addr  : 001871-c42f00
ROM Version        : K.12.12   Serial Number  : SG641SU00L

Up Time            : 23 hours Memory - Total :
CPU Util (%)       : 10                Free :
IP Mgmt - Pkts Rx  : 759      Packet - Total : 6750
Pkts Tx : 2                     Buffers Free : 5086
Lowest : 4961
Missed : 0
show flash
Image        Size(Bytes)  Date     Version
-----        ---------- -------- -----------
```

Minimum Software Version: 15.10.

display dns domain

Comware	Related ProVision
display dns domain	show ip dns

Displays all the domain name suffixes that are appended to host names by the resolver before sending the queries to name servers. These domain name suffixes could have been statically configured on the switch or obtained from the DHCP server dynamically.

```
HP Switch# display dns domain
 Type:
  D:Dynamic    S:Static

No.     Type    Domain-name
1       S       hp5.com
2       S       hp.in
3       S       hp.us
```

Example of Related ProVision Software Command Output.

```
HP Switch# show ip dns
DNS Mode : DHCP
Domain Suffix : pubs.outdoors.com

DNS Servers Configured:
----------------------
10.28.229.10

Priority DNS Server Addresses
-------- --------------------
1 10.28.192.1
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display dns domain dynamic

Comware	Related ProVision
display dns domain dynamic	No equivalent ProVision software command

Displays all the domain name suffixes that are obtained from the DHCP server dynamically.

```
HP Switch# display dns domain dynamic

 Type:
  D:Dynamic    S:Static

No.     Type    Domain-name
1       D       hp2.net
2       D       hp3.net
3       D       hp4.net
```

Minimum Software Version: 15.10.

display dns < domain | server >

Comware	Related ProVision
display dns < domain | server >	show ip dns show ip

Displays the current IPv4 DNS domain name suffixes and server configuration.

```
HP Switch# display dns domain

 Type:
  D:Dynamic    S:Static

No.    Type    Domain-name
1      S       atlantic.widgetcorp.net

HP Switch# display dns server

 Type:
  D:Dynamic    S:Static

DNS Server  Type  IP Address
    1       S     10.110.34.51
    2       S     10.110.34.101
```

Field Descriptions

No.: Sequence number.

Type: Shows the type of domain name suffix. S means a statically configured domaine name suffix. D means a domain name suffix obtained dynamically through DHCP.

Domain-name: The domain name suffix.

DNS Server: The sequence number of the DNS server.

IP Address: The IPv4 address of the DNS server(s).

Operating Notes

The switch supports one domain suffix entry and two DNS server IP address entries.

To configure DNS operation in ProVision software, use one of the following commands:

```
ip dns dhcp
ip dns domain-name < name-str >
ip dns server-address priority < 1 | 2 > < ip-addr | ipv6-addr >
```

For more on configuring **dns**, refer to the "Troubleshooting" chapter in the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

```
HP Switch# show ip dns

  DNS Mode      :  DHCP
  Domain Suffix    :  americas.hpqcorp.net

  DNS Servers Configured :
  ----------------------
  Priority   DNS Server Addresses
  --------   --------------------
```

```
1.          16.110.135.52
2.          16.110.135.51
```

DNS Field Mappings.

Comware	ProVision Software
No.	*n/a*
DNS Server	Priority
Type	DNS Mode
Domain-name	Domain Suffix
IP Address	DNS Server Addresses
n/a	DNS Servers Configured

display dot1x [interface ...]
display dot1x sessions [interface ...]
display dot1x statistics [interface ...]

Comware	Related ProVision
display dot1x [interface ...]	show dhcp-snooping binding
display dot1x sessions [interface ...]	
display dot1x statistics [interface ...]	

Displays information about 802.1X.

```
HP Switch# display dot1x
Equipment 802.1X protocol is
 CHAP authentication is n/a
 Proxy trap checker is n/a
 Proxy logoff checker is n/a
 EAD quick deploy is n/a
Configuration: Transmit Period   30 s, Handshake Period     n/a
               Quiet Period     60 s, Quiet Period Timer is n/a
               Supp Timeout    30 s, Server Timeout     300 s
               Reauth Period     3600 s
               The maximal retransmitting times    2
EAD quick deploy configuration:
               EAD timeout:   n/a
The maximum 802.1X user resource number is n/a per slot
Total current used 802.1X resource number is n/a
A1 is link-up
  802.1X protocol is disabled
  Proxy trap checker is   n/a
  Proxy logoff checker is n/a
  Handshake is n/a
  Handshake secure is n/a
  802.1X unicast-trigger is n/a
  Periodic reauthentication is disabled
  The port is not an authenticator
  Authentication Mode is Auto
  Port Control Type is n/a
  802.1X Multicast-trigger is n/a
  Mandatory authentication domain: n/a
  Guest VLAN: 0
  Auth-Fail VLAN: n/a
  Max number of on-line users is 0
  EAPOL Packet: Tx n/a, Rx n/a
  Sent EAP Request/Identity Packets : 0
       EAP Request/Challenge Packets: 0
       EAP Request/Challenge Packets: 0
  Received EAPOL Start Packets : 0
           EAPOL LogOff Packets: 0
           EAP Response/Identity Packets : 0
           EAP Response/Challenge Packets: 0
           Error Packets: 0
  Controlled User(s) amount to n/a

HP Switch# display dot1x sessions
  Equipment 802.1X protocol is enabled
 CHAP authentication is n/a
The maximum 802.1X user resource number is n/a per slot
Total current used 802.1X resource number is n/a
 A1  is link-up
  802.1X protocol is disabled
```

```
  Proxy trap checker is n/a
  Proxy logoff checker is n/a
  Handshake is n/a
  Handshake secure is n/a
  802.1X unicast-trigger is n/a
  Controlled User(s) amount to n/a
A2  is link-down
  802.1X protocol is disabled
  Proxy trap checker is n/a
  Proxy logoff checker is n/a
  Handshake is n/a
  Handshake secure is n/a
  802.1X unicast-trigger is n/a
  Controlled User(s) amount to n/a
A3  is link-down
  802.1X protocol is disabled
  Proxy trap checker is n/a
  Proxy logoff checker is n/a
  Handshake is n/a
  Handshake secure is n/a
  802.1X unicast-trigger is n/a
  Controlled User(s) amount to n/a

HP Switch# display dot1x sessions
Equipment 802.1X protocol is enabled
 CHAP authentication is n/a
 The maximum 802.1X user resource number is n/a per slot
 Total current used 802.1X resource number is n/a
 A1 is link-up
   802.1X protocol is disabled
   Proxy trap checker is n/a
   Proxy logoff checker is n/a
   Handshake is n/a
   Handshake secure is n/a
   802.1X unicast-trigger is n/a
   EAPOL Packet: Tx n/a, Rx n/a
   Sent EAP Request/Identity Packets : 0
        EAP Request/Challenge Packets: 0
        EAP Request/Challenge Packets: 0
   Received EAPOL Start Packets : 0
            EAPOL LogOff Packets: 0
            EAP Response/Identity Packets : 0
            EAP Response/Challenge Packets: 0
            Error Packets: 0
   Controlled User(s) amount to n/a
 A2  is link-down
   802.1X protocol is disabled
   Proxy trap checker is n/a
   Proxy logoff checker is n/a
   Handshake is n/a
   Handshake secure is n/a
   802.1X unicast-trigger is n/a
   EAPOL Packet: Tx n/a, Rx n/a
   Sent EAP Request/Identity Packets : 0
        EAP Request/Challenge Packets: 0
        EAP Request/Challenge Packets: 0
   Received EAPOL Start Packets : 0
            EAPOL LogOff Packets: 0
            EAP Response/Identity Packets : 0
            EAP Response/Challenge Packets: 0
            Error Packets: 0
   Controlled User(s) amount to n/a
```

Example of Related ProVision Software Command Output.

```
HP Switch# show dhcp-snooping binding

MacAddress         IP       VLAN  Interface Time left
------------------ -------- ----- --------- ---------
22.22.22.22.22.22 10.0.0.1    4      B2       1600
```

Operating Notes

For more information, refer to the latest *Access Security Guide* for your switch.

Minimum Software Version: 15.10.

display fib <ip-address>

Comware	Related ProVision
display fib <ip-address>	show ip route

Displays FIB entries that match the specified destination IP address.

If no mask or mask length is specified, the FIB entry that matches the destination IP address and has the longest mask will be displayed; if the mask is specified, the FIB entry that exactly matches the specified destination IP address will be displayed.

```
HP Switch# display fib

Destination count: n/a    FIB entry count: n/a

Flag:
  U:Useable   G:Gateway   H:Host   B:Blackhole   D:Dynamic   S:Static
  R:Relay
Destination/MASK   Nexthop         Flag    OutInterface    InnerLabel Token
0.0.0.0/0          10.0.8.1        n/a     VLAN1           n/a        n/a
10.0.8.0/21        DEFAULT_VLAN    n/a     VLAN1           n/a        n/a
127.0.0.0/8        reject          n/a                     n/a        n/a
127.0.0.1/32       lo0             n/a                     n/a        n/a
0.0.0.0/0          lo0             n/a                     n/a        n/a
```

Field Descriptions

Destination count: Total number of destination addresses.

Destination/Mask: Destination address/length of mask.

Nexthop: Address of next hop.

Flag: Flags of routes:

- “U”—Usable route
- “G”—Gateway route
- “H”—Host route
- “B”—Blackhole route
- “D”—Dynamic route
  - “S”—Static route
  - "R"—Relay route

OutInterface: Outbound interface.

InnerLabel: Inner label.

Token: LSP index number.

Operating Notes

Values for “Nexthop” and “Outinterface” will be the same as the Gateway and VLAN of the output for **show ip route**.

For more information, see the “IP Routing Features” chapter in the latest *Multicast and Routing Guide* for your switch.

Minimum Software Version: 15.11.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show ip route

                              IP Route Entries

Destination       Gateway         VLAN Type      Sub-Type   Metric   Dist.
----------------- --------------- ---- --------- ---------- -------- -----
10.10.10.1/32     10.10.12.1           connected             1         0
```

display gvrp status

Displays the global enable/disable state of GVRP.

Comware	Related ProVision
display gvrp status	show gvrp

```
HP Switch# display gvrp status
    GVRP is enabled
```

Operating Notes

To enable and control GVRP operation in ProVision software, use the following commands:

```
gvrp
interface < port-list > unknown-vlans < learn | block | disable >
```

ProVision software also supports GVRP configuration and status monitoring by using the Menu interface.

For more on GVRP operation, refer to the chapter titled "GVRP" in the latest *Advanced Traffic Management Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

GVRP disabled:

```
HP Switch# show gvrp

 GVRP support

  Maximum VLANs to support [256] : 256
  Primary VLAN : DEFAULT_VLAN
  GVRP Enabled [No] : No
```

GVRP enabled:

```
HP Switch# show gvrp

 GVRP support

  Maximum VLANs to support [256] : 256
  Primary VLAN : DEFAULT_VLAN
  GVRP Enabled [No] : Yes

  Port Type      | Unknown VLAN Join  Leave Leaveall
  ---- --------- + ------------ ----- ----- --------
  A1   100/1000T | Learn        20    300   1000
  A2   100/1000T | Learn        20    300   1000
  A3   100/1000T | Learn        20    300   1000
.
.
.
 A24   100/1000T | Learn        20    300   1000
```

display gvrp vlan-operation interface interface-type interface-number

Comware	Related ProVision
display gvrp vlan-operation interface interface-type interface-number	No equivalent ProVision software command

Displays information about dynamic VLAN operations on a port.

```
HP Switch# display gvrp vlan-operation interface a3

     Dynamic VLAN operations on port A3

         Operations of creating VLAN              : none
         Operations of deleting VLAN              : none
         Operations of adding VLAN to TRUNK       : none
         Operations of deleting VLAN from TRUNK   : none
```

Minimum Software Version: 15.10.

display history-command

Comware	Related ProVision
display history-command	show history

Displays the last 25 commands executed on the switch CLI, including commands entered incorrectly. The command listing begins with the oldest command in the sequence and ends with the most recent command executed (excluding the **display history-command** itself).

```
HP Switch# display history-command
25      display dns domain
24      display gvrp status
23      display gvrp status
22      gvrp helpp
21      gvrp help
20      gvrp
19      display gvrp status
.
.
.
2       display ip community-list
1       display ip as-path
```

Operating Notes

The ProVision software **show history** command output is identical to the Comware **display history-command** output.

Minimum Software Version: 15.08.

display hwtacacs

Comware	Related ProVision
display hwtacacs	show tacacs

Displays the configuration information or statistics of HWTACACS schemes. This command is available only in manager mode.

```
HP Switch# display hwtacacs

------------------------------------------------------------
  HWTACACS-server template name     : n/a
  Primary-authentication-server     : 1.2.3.4:n/a
  VPN instance                      : n/a
  Primary-authorization-server      : 1.2.3.4:n/a
  VPN instance                      : n/a
  Primary-accounting-server         : 1.2.3.4:n/a
  VPN instance                      : n/a
  Secondary-authentication-server   : 6.7.8.9:n/a
  VPN instance                      : n/a
  Secondary-authorization-server    : 6.7.8.9:n/a
  VPN instance                      : n/a
  Secondary-accounting-server       : 6.7.8.9:n/a
  VPN instance                      : n/a
  Current-authentication-server     : 1.2.3.4:n/a
  VPN instance                      : n/a
  Current-authorization-server      : 1.2.3.4:n/a
  VPN instance                      : n/a
  Current-accounting-server         : 1.2.3.4:n/a
  VPN instance                      : n/a
  Nas-IP address                    : n/a
  key authentication                : authentication
  key authorization                 : authentication
  key accounting                    : authentication
  Nas-IP address                    : n/a
  VPN instance                      : n/a
  Quiet-interval(min)               : n/a
  Realtime-accounting-interval(min) : n/a
  Response-timeout-interval(sec)    : 5
  Acct-stop-PKT retransmit times    : n/a
  Username format                   : n/a
  Data traffic-unit                 : n/a
  Packet traffic-unit               : n/a
------------------------------------------------------------
  Total 1 HWTACACS scheme(s).
```

Example of Related ProVision Software Command Output.

```
HP Switch# show tacacs

Status and Counters - TACACS Information

Timeout : 5
Source IP Selection : Configured IP Interface
Encryption Key :
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

display igmp group

Comware	Related ProVision
display igmp group	show ip igmp groups

Displays IGMP group address, uptime, and expiry information. If no IGMP groups are detected, returns the system prompt.

```
HP Switch# display igmp group
Total 1 IGMP Group(s).
Interface group report information
 Vlan-interface1(15.255.134.111):
  Total 1 IGMP Group reported
   Group Address  Last Reporter  UpTime   Expires
   10.255.215.190 10.125.103.197 00:04:22 00:03:38
```

Field Descriptions

Vlan-interface*N*: IP address of a VLAN on which IGMP is running.

Group Address: Multicast group address.

Last Reporter: Address of the last host that reported its membership for this multicast group.

UpTime: Length of time since the multicast group was reported.

Expires: Remaining time of the multicast group, where "off" means that the multicast group never times out.

Operating Notes

To enable IGMP operation in ProVision software, use the following command from the context of a VLAN on which you want to enable IGMP:

```
ip igmp
```

For more on IGMP operation in ProVision software, refer to the chapter titled "Multimedia Traffic Control with IP Multicast (IGMP)" in the latest *Multicast and Routing Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

```
HP Switch# show ip igmp groups

 IGMP Group Address Information

  VLAN ID Group Address   Expires       UpTime        Last Reporter   | Type
  ------- --------------- ------------- ------------- --------------- + ------
  1       10.255.215.190  0h 0m 27s     1h 22m 37s    10.125.103.197  | Filter
```

IGMP Field Mappings.

Comware	ProVision Software
Vlan-interface*N*	VLAN ID
Group Address	Group Address
Expires	Expires
Uptime	UpTime
Last Reporter	Last Reporter
n/a	Type

display igmp group interface vlan-interface <vlan-id> verbose

Comware	Related ProVision
display igmp group interface vlan-interface <vlan-id> verbose	No equivalent ProVision software command

Displays detailed information about IGMP multicast groups in a particular interface.

```
HP Switch# display igmp group interface Vlan-interface 400
verbose
  Vlan-interface400(192.168.9.2):
   Total 5 IGMP Groups reported
    Group: 225.1.5.4
     Uptime: 00:07:19
     Expires: 00:01:43
     Last reporter: 192.168.9.9
     Last-member-query-counter: 0
     Last-member-query-timer-expiry: off
     Version1-host-present-timer-expiry: off
   Group: 239.4.4.4
     Uptime: 00:07:19
     Expires: 00:01:38
     Last reporter: 192.168.9.9
     Last-member-query-counter: 0
     Last-member-query-timer-expiry: off
     Version1-host-present-timer-expiry: off
   Group: 239.9.9.9
     Uptime: 00:07:19
     Expires: 00:01:37
     Last reporter: 192.168.9.9
     Last-member-query-counter: 0
     Last-member-query-timer-expiry: off
     Version1-host-present-timer-expiry: off
   Group: 239.9.99.99
     Uptime: 00:07:19
     Expires: 00:01:41
     Last reporter: 192.168.9.9
     Last-member-query-counter: 0
     Last-member-query-timer-expiry: off
     Version1-host-present-timer-expiry: off
   Group: 239.99.99.99
     Uptime: 00:07:19
     Expires: 00:01:37
     Last reporter: 192.168.9.9
     Last-member-query-counter: 0
     Last-member-query-timer-expiry: off
     Version1-host-present-timer-expiry: off
```

Minimum Software Version: 15.10.

display igmp group verbose

Comware	Related ProVision
display igmp group verbose	No equivalent ProVision software command

Displays detailed information about IGMP multicast groups.

```
HP Switch# display igmp group verbose
Interface group report information
 Vlan-interface400(192.168.9.2):
  Total 5 IGMP Groups reported
   Group: 225.1.5.4
     Uptime: 00:00:16
     Expires: 00:01:54
     Last reporter: 192.168.9.9
     Last-member-query-counter: 0
     Last-member-query-timer-expiry: off
     Version1-host-present-timer-expiry: off
   Group: 239.4.4.4
     Uptime: 00:00:16
     Expires: 00:01:54
     Last reporter: 192.168.9.9
     Last-member-query-counter: 0
     Last-member-query-timer-expiry: off
     Version1-host-present-timer-expiry: off
   Group: 239.9.9.9
     Uptime: 00:00:16
     Expires: 00:01:54
     Last reporter: 192.168.9.9
     Last-member-query-counter: 0
     Last-member-query-timer-expiry: off
     Version1-host-present-timer-expiry: off
   Group: 239.9.99.99
     Uptime: 00:00:16
     Expires: 00:01:54
     Last reporter: 192.168.9.9
     Last-member-query-counter: 0
     Last-member-query-timer-expiry: off
     Version1-host-present-timer-expiry: off
   Group: 239.99.99.99
     Uptime: 00:00:16
     Expires: 00:01:54
     Last reporter: 192.168.9.9
     Last-member-query-counter: 0
     Last-member-query-timer-expiry: off
     Version1-host-present-timer-expiry: off
```

Minimum Software Version: 15.10.

display igmp group x.x.x.x verbose

Comware	Related ProVision
display igmp group x.x.x.x verbose	No equivalent ProVision software command

Displays detailed information about a specified IGMP multicast group.

```
HP Switch# display igmp group 239.4.4.4 verbose
Interface group report information
 Vlan-interface400(192.168.9.2):
  Total 5 IGMP Groups reported
   Group: 239.4.4.4
     Uptime: 00:01:56
     Expires: 00:02:06
     Last reporter: 192.168.9.9
     Last-member-query-counter: 0
     Last-member-query-timer-expiry: off
     Version1-host-present-timer-expiry: off
```

Minimum Software Version: 15.10.

display igmp interface verbose

Comware	Related ProVision
display igmp interface verbose	No equivalent ProVision software command

Displays detailed IGMP configuration and operation information.

```
HP Switch# display igmp interface verbose
Interface information
 Vlan-interface1(10.100.239.141):
   IGMP is enabled
   Current IGMP version is 2
   Value of query interval for IGMP(in seconds): 125
   Value of other querier present interval for IGMP(in seconds):
   255
   Value of maximum query response time for IGMP(in seconds): 10
   Value of last member query interval(in seconds): 10
   Value of startup query interval(in seconds): 31
   Value of startup query count: 2
   General query timer expiry (hours:minutes:seconds): 00:01:58
   Querier for IGMP: 10.100.239.141 (this router)
   IGMP activity: 378 joins, 0 leaves
   Multicast routing on this interface: disabled
   Robustness: 2
   Require-router-alert: enabled
   Fast-leave: enabled
   Ssm-mapping: n/a
   Startup-query-timer-expiry: off
   Other-querier-present-timer-expiry: off
   Proxying interface: n/a
   Total 9 IGMP Groups reported

 Vlan-interface2(192.168.9.2):
   IGMP is enabled
   Current IGMP version is 2
   Value of query interval for IGMP(in seconds): 125
   Value of other querier present interval for IGMP(in seconds):
   255
   Value of maximum query response time for IGMP(in seconds): 10
   Value of last member query interval(in seconds): 10
   Value of startup query interval(in seconds): 31
   Value of startup query count: 2
   General query timer expiry (hours:minutes:seconds): 00:01:56
   Querier for IGMP: 192.168.9.2 (this router)
   IGMP activity: 0 joins, 0 leaves
   Multicast routing on this interface: disabled
   Robustness: 2
   Require-router-alert: enabled
   Fast-leave: disabled
   Ssm-mapping: n/a
   Startup-query-timer-expiry: off
   Other-querier-present-timer-expiry: off
   Proxying interface: n/a
```

Minimum Software Version: 15.10.

display interface

Comware	Related ProVision
display interface	show interface <port>

Displays current state about a specified port and related information. If no port number is specified, information is displayed for all ports.

```
HP Switch# display interface a1
  A1 current state: UP
  IP Packet Frame Type: n/a, Hardware Address: 001560-f9b0ff
  Description: A1 interface
  Loopback is n/a
  Media type is twisted Pair
  Port hardware type is 100/1000T
  1000Mbps-speed mode, full-duplex mode
  Link speed type is autonegotiation, link duplex type is
 autonegotiation
  Flow-control is not enabled
  The Maximum Frame Length is 9216
  Broadcast MAX-ratio: n/a
  Unicast MAX-ratio: n/a
  Multicast MAX-ratio: n/a
  Jumbo frame: [ see "show jumbos"]
  PVID : 1
  Mdi type: MDIX
  Link delay is n/a
  Port link-type: n/a
   Tagged VLAN ID : none
   Untagged VLAN ID : 1
  Port priority: No-override
  Last clearing of counters: n/a
  Peak value of input: n/a
  Peak value of output: n/a
  Last 300 seconds input: 0 packets/sec 128846 bytes/sec 0%
  Last 300 seconds output: 0 packets/sec 65444 bytes/sec 0%
  Input (total): 0 packets, 26 bytes
         3 unicasts, 2 broadcasts, 21 multicasts, 0 pauses
  Input (normal): 0 packets, 26 bytes
         3 unicasts, 2 broadcasts, 21 multicasts, 0 pauses
  Input:  0 input errors, 0 runts, 0 giants, n/a throttles
         0 CRC, 0 frame, n/a overruns, n/a aborts
         n/a ignored, n/a parity errors
  Output (total): 0 packets, 24 bytes
         0 unicasts, 4 broadcasts, 20 multicasts, 0 pauses
  Output (normal): 0 packets, 24 bytes
         0 unicasts, 4 broadcasts, 20 multicasts, 0 pauses
  Output: 0 output errors, n/a underruns, n/a buffer failures
        n/a aborts, 0 deferred, 0 collisions, 0 late collisions
         n/a lost carrier, n/a no carrier
```

Example of Related ProVision Software Command Output.

```
HP Switch# show interfaces brief
Status and Counters - Port Status

                | Intrusion         MDI  Flow Bcast
Port  Type      | Alert     Enabled Status Mode Mode Ctrl Limit
----- ---------+ --------- ------- ------ ---- ---- ---- -----
B1   100/1000T | No         Yes    Down Auto-10-100 Auto off 0
B2   100/1000T | No         Yes    Down 1000FDx     Auto off 0
B3   100/1000T | No         Yes    Down 1000FDx     Auto off 0
```

```
B4   100/1000T | No         Yes    Down 1000FDx     Auto off 0
B5   100/1000T | No         Yes    Down 1000FDx     Auto off 0
B6   100/1000T | No         Yes    Down 1000FDx     Auto off 0
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display ip as-path

Comware	Related ProVision
display ip as-path	show ip aspath-list

Displays BGP AS-Path list information

```
HP Switch# display ip as-path
ListID     Mode       Expression
  test1     permit      $25
```

Field Descriptions

ListID: AS path list ID.

Mode: Match mode — permit or deny.

Expression: Regular expression for matching.

Operating Notes

To enable BGP operation in ProVision software, see the "BGP (Border Gateway Protocol)" chapter in the latest *Multicast and Routing Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

```
HP Switch# show ip aspath-list

Route Policy AS-path List test1: 1 entries
   seq 5        permit "$25" ip as-path Field Mappings
```

Comware	ProVision Software
ListID	*as-path name*
Mode	`permit` or `deny`
Expression	`$` expression

display ip community-list

Comware	Related ProVision
display ip community-list	show ip community-list

Displays BGP community list information

```
HP Switch# display ip community-list
Community List Number community-1
   permit 10
   deny 50
```

Field Descriptions

Community List Number < community-name >: Specifies the community being reported.

permit: Permitted routes that belong to the community .

deny: Denied routes that belong to the community.

Operating Notes

To enable BGP in ProVision software, see the "BGP (Border Gateway Protocol)" chapter in the latest *Multicast and Routing Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

```
HP Switch# show ip community-list

 ip community list community-1 standard
  permit 10
  deny 50
```

ip as-path Field Mappings.

Comware	ProVision Software
Community List Number	ip community list
permit	permit
deny	deny

display ip http

Comware	Related ProVision
display ip http	No equivalent ProVision software command

Displays information about HTTP.

```
HP Switch# display ip http
HTTP port: 80
Basic ACL: n/a
Current connection: 0
Operation status: enabled
```

Minimum Software Version: 15.10.

display ip https

Comware	Related ProVision
display ip https	No equivalent ProVision software command

Displays information about HTTPs.

```
HP Switch# display ip https
HTTPS port: 443
SSL server policy: n/a
Certificate access-control-policy: n/a
Basic ACL: n/a
Operation status: disabled
```

Minimum Software Version: 15.10.

display ip ip-prefix

Comware	Related ProVision
display ip ip-prefix	show ip prefix-list

Displays all the prefix list information, including list name, address, length, rule type, ge and le [greater than or equal /less than or equal w.r.t mask range] for a specific network. This command is available only in manager mode.

```
HP Switch# display ip ip-prefix abc
 Prefix-list abc
 Permitted n/a
 Denied n/a
        index: 5   permit 11.2.3.4/8 ge 8 le 8
```

Example of Related ProVision Software Command Output.

```
HP Switch# show ip prefix-list

ip prefix-list Odd: 4 entries
seq 5 permit 10.1.1.1/24 ge 24 le 24
seq 10 deny 10.1.2.1/24 ge 24 le 24
seq 15 permit 10.1.3.1/24 ge 24 le 24
seq 20 deny 10.1.4.1/24 ge 24 le 24

ip prefix-list Even: 4 entries
seq 5 deny 10.1.1.1/24 ge 24 le 24
seq 10 permit 10.1.2.1/24 ge 24 le 24
seq 15 deny 10.1.3.1/24 ge 24 le 24
seq 20 permit 10.1.4.1/24 ge 24 le 24
```

Operating Notes

For more information, refer to the latest *Multicast and Routing Guide* for your switch.

Minimum Software Version: 15.10.

display ipv6 fib

Comware	Related ProVision
display ipv6 fip	show ipv6 route

Displays IPv6 FIB entries. If no argument is specified, all IPv6 FIB entries will be displayed. The switch looks up a matching IPv6 FIB entry for forwarding an IPv6 packet.

```
HP Switch(config)# display ipv6 fib

FIB Table:
 Total number of Routes : n/a

 Flag:
  U:Useable   G:Gateway   H:Host   B:Blackhole   D:Dynamic   S:Static

Destination:    ::1                                    PrefixLength : 128
NextHop    :    ::1                                    Flag         : UH
Label      :    n/a                                    Token        : n/a
```

Field Descriptions

Total number of Routes: Total number of routes in the FIB.

Destination: Destination address.

PrefixLength: Prefix length of the destination address.

NextHop: Next hop.

Flag: Route flag:

- U — Usable route
- G — Gateway route
- H — Host route
- B — Black hole route
- D — Dynamic route
- S — Static route

Label: Label.

Token: LSP index number.

Interface: Outgoing interface.

Operating Notes

For more information, see the "OSPFv3 Routing" chapter in the latest *IPv6 Configuration Guide* for your switch.

Minimum Software Version: 15.11.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show ipv6 route
                                IPv6 Route Entries

 Dest : ::/0                                              Type : static
 Gateway : fe80::213:c4ff:fedd:14b0%vlan10      Dist. : 40   Metric : 0

 Dest : ::1/128                                           Type : connected
 Gateway : lo0                                  Dist. : 0    Metric : 1
```

```
Dest : 2001:db8:a03:e102::/64                          Type : connected
Gateway : VLAN10                              Dist. : 0    Metric : 1

Dest : fe80::%vlan10                                   Type : connected
Gateway : VLAN10                              Dist. : 0    Metric : 1

Dest : fe80::1%lo0                                     Type : connected
Gateway : lo0                                 Dist. : 0    Metric : 1
```

display ipv6 fib <ip-address>

Comware	Related ProVision
display ipv6 fib <ip-address>	show ipv6 route

Displays the IPv6 FIB entry of the specified destination IPv6 address. Note the following:

- Without the prefix-length argument specified, this command displays the matching IPv6 FIB entry with the longest prefix.
- With the prefix-length argument specified, this command displays the IPv6 FIB entry exactly matching the specified destination IPv6 address and prefix length.

```
HP Switch(config)# display ipv6 fib ::1

FIB Table:
 Total number of Routes : n/a

 Flag:
  U:Useable   G:Gateway   H:Host   B:Blackhole   D:Dynamic   S:Static

Destination:    ::1                                    PrefixLength : 128
NextHop    :    ::1                                    Flag         : UH
Label      :    n/a                                    Token        : n/a
Interface  :    InLoopBack0
```

Field Descriptions

Total number of Routes: Total number of routes in the FIB.

Destination: Destination address.

PrefixLength: Prefix length of the destination address.

NextHop: Next hop.

Flag: Route flag:

- U — Usable route
- G — Gateway route
- H — Host route
- B — Black hole route
- D — Dynamic route
- S — Static route

Label: Label.

Token: LSP index number.

Interface: Outgoing interface.

Operating Notes

For more information, see the "OSPFv3 Routing" chapter in the latest *IPv6 Configuration Guide* for your switch.

Minimum Software Version: 15.11.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show ipv6 route

                                IPv6 Route Entries
```

```
Dest : ::/0                                                  Type : static
Gateway : fe80::213:c4ff:fedd:14b0%vlan10       Dist. : 40   Metric : 0

Dest : ::1/128                                               Type : connected
Gateway : lo0                                   Dist. : 0    Metric : 1

Dest : 2001:db8:a03:e102::/64                                Type : connected
Gateway : VLAN10                                Dist. : 0    Metric : 1

Dest : fe80::%vlan10                                         Type : connected
Gateway : VLAN10                                Dist. : 0    Metric : 1

Dest : fe80::1%lo0                                           Type : connected
Gateway : lo0                                   Dist. : 0    Metric : 1
```

display ipv6 neighbors all

Comware	Related ProVision
display ipv6 ipv6 neighbors all	show ipv6 neighbors

Displays neighbor information.

```
HP Switch(config)# display ipv6 neighbors all

                Type: S-Static    D-Dynamic

IPv6 Address                Link-layer     VID   Interface State    T    Age

FE80::200:5EFF:FE32:B800  0000-5e32-b800  N/A   GE3/0/1    REACH    S    -
```

Field Descriptions

IPv6 Address: IPv6 address of a neighbor.

Link-layer: Link layer address (MAC address of a neighbor).

VID: VLAN to which the interface connected with a neighbor belongs.

Interface: Interface connected with a neighbor.

State: State of neighbor, including:

- NCMP: The address is being resolved. The link layer address of the neighbor is unknown.
- REACH: The neighbor is reachable.
- STALE: The reachability of the neighbor is unknown. The switch will not verify the reachability any longer unless data is sent to the neighbor.
- DELAY: The reachability of the neighbor is unknown. The switch sends an NS message after a delay.
- PROBE: The reachability of the neighbor is unknown. The switch sends an NS message to verify the reachability of the neighbor.

T: Type of neighbor information, including static configuration and dynamic acquisition.

Age: For a static entry, a hyphen "-" is displayed. For a dynamic entry, the reachable time (in seconds) elapsed is displayed, and if it is never reachable, "#" is displayed (for a neighbor acquired dynamically).

VPN-instance Name: Name of a VPN. [No Vrf] indicates no VPN is configured.

Operating Notes

For more information, see the "IPv6 Management Features" chapter in the latest *IPv6 Configuration Guide* for your switch.

Minimum Software Version: 15.11.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show ipv6 neighbors

 IPv6 ND Cache Entries

 IPv6 Address                              MAC Address   State Type    Port
 ----------------------------------------- ------------- ----- ------- ----
 2001:db8:260:212::101                     0013c4-dd14b0 STALE dynamic A1
 2001:db8:260:214::1:15                    001279-88a100 REACH local
 fe80::1:1                                 001279-88a100 REACH local
```

```
fe80::10:27                             001560-7aadc0 REACH dynamic A3
fe80::213:c4ff:fedd:14b0                0013c4-dd14b0 REACH dynamic A1
```

display ipv6 routing-table

Comware	Related ProVision
display ipv6 routing-table	show ipv6 route

Displays brief ipv6 routing information. The verbose option displays detailed information about the ipv6 routing table.

```
HP Switch# display ipv6 routing-table
Routing Table: Public
        Destinations: 3        Routes : 3

Destination: ::1/128                          Protocol : Direct
NextHop : ::1                                     Preference: 0
Interface : InLoop0                                Cost     : 0

Destination: 6::/64                          Protocol : OSPFv3
NextHop : FE80::3A22:D6FF:FEB4:4450             Preference: 10
Interface : Vlan2                                  Cost     : 2

Destination: 7::/64                          Protocol : Direct
NextHop : 7::2                                    Preference: 0
Interface : Vlan2                                  Cost     : 0

HP Switch# display ipv6 routing-table verbose
Routing Table : Public
        Destinations : 2    Routes : 2

Destination  : ::1                          PrefixLength : 128
NextHop      : ::1                            Preference   : 0
RelayNextHop : n/a                            Tag        : n/a
Neighbor     : n/a                           ProcessID   : n/a
Interface    : InLoopBack0                 Protocol   : Direct
State        : Active NoAdv                     Cost       : 0
Tunnel ID    : n/a                            Label      : n/a
Age           : 28864sec

Destination  : 6::                           PrefixLength : 64
NextHop     : FE80::3A22:D6FF:FEB4:4450     Preference : 10
RelayNextHop : n/a                           Tag : n/a
Neighbor     : n/a                          ProcessID : n/a
Interface    : Vlan-interface2            Protocol : OSPFv3
State        : Active Adv                      Cost : 2
Tunnel ID    : n/a                           Label : n/a
Age          : 21665sec
```

Example of Related ProVision Software Command Output.

```
HP Switch# show ipv6 route

IPv6 Route Entries

Destination : ::/0
Gateway : 2001:db8:e::55:2
Type : static Sub-Type : NA Distance : 130 1 Metric : 1

Destination : ::1/128
Gateway : lo0
Type : connected Sub-Type : NA Distance : 0 Metric : 1

Destination : 2001:db8:1::127/128
Gateway : lo6
```

```
Type : connected Sub-Type : NA Distance : 0 Metric : 1

Destination : 2001:db8:a::/64
Gateway : fe80::22:1%vlan22
Type : ospf3 Sub-Type : InterArea Distance : 110 Metric : 2

Destination : 2001:db8:b::/64
Gateway : VLAN22
Type : connected Sub-Type : NA Distance : 0 Metric : 1

Destination : 2001:db8:c::/64
Gateway : 2001:db8:e::55:2
Type : static Sub-Type : NA Distance : 120 Metric : 1

-- MORE --, next page: Space, next line: Enter, quit: Control-C
```

Operating Notes

For more information, refer to the latest *IPv6 Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display ipv6 routing-table ipv6-address

Comware	Related ProVision
display ipv6 routing-table ipv6-address	show ipv6 route

Displays routing information for a specified destination ipv6 address. The verbose option displays detailed information for the specified destination ipv6 address.

```
HP Switch# display ipv6 routing-table 6::1 64
Routing Table : n/a
Summary Count : n/a

Destination : 6::/64                          Protocol      : Direct
NextHop     : 6::1                                Preference  : 0
Interface   : Vlan2                               Cost        : 1
HP Switch#  display ipv6 routing-table 6::1 64 verbose
Routing Table : n/a
Summary Count : n/a
 Destination  : 6::                           PrefixLength : 64
 NextHop      : 6::1                           Preference   : 0
 RelayNextHop : n/a                            Tag        : n/a
 Neighbor     : n/a                           Process ID  : n/a
 Interface    : Vlan-interface2              Protocol    : Direct
 State        : n/a                             Cost        : 1
 Tunnel ID    : n/a                           Label       : n/a
 Age            : n/a
```

Example of Related ProVision Software Command Output.

```
HP Switch# show ipv6 route

IPv6 Route Entries

Destination : ::/0
Gateway : 2001:db8:e::55:2
Type : static Sub-Type : NA Distance : 130 1 Metric : 1

Destination : ::1/128
Gateway : lo0
Type : connected Sub-Type : NA Distance : 0 Metric : 1

Destination : 2001:db8:1::127/128
Gateway : lo6
Type : connected Sub-Type : NA Distance : 0 Metric : 1

Destination : 2001:db8:a::/64
Gateway : fe80::22:1%vlan22
Type : ospf3 Sub-Type : InterArea 2 Distance : 110 Metric : 2

Destination : 2001:db8:b::/64
Gateway : VLAN22
Type : connected Sub-Type : NA Distance : 0 3 Metric : 1

Destination : 2001:db8:c::/64
Gateway : 2001:db8:e::55:2
Type : static Sub-Type : NA Distance : 120 Metric : 1

-- MORE --, next page: Space, next line: Enter, quit: Control-C
```

Operating Notes

For more information, refer to the latest *IPv6 Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display ipv6 routing-table protocol

Comware	Related ProVision
display ipv6 routing-table protocol	show ipv6 route {connected | static | ospf3}

Displays routing information for a specified routing protocol. The routing protocol specified may be static, direct or ospfv3.

```
HP Switch# display ipv6 routing-table protocol direct
Routing Table: n/a
        Destinations: 1    Routes: 1

 Destination : ::1/128                          Protocol   : Direct
 NextHop     : ::1                                  Preference  : 0
 Interface   : InLoop0                               Cost       : 1

HP Switch# display ipv6 routing-table protocol direct verbose
Routing Table: n/a
        Destinations: 1     Routes: 1

  Destination : ::1                             PrefixLength : 128
  NextHop     : ::1                               Preference   : 0
  RelayNextHop : n/a                              Tag        : n/a
  Neighbor    : n/a                             Process ID   : n/a
  Interface   : InLoopBack0                   Protocol   : Direct
  State       : Active Adv                        Cost       : 1
  Tunnel ID   : n/a                               Label      : n/a
  Age           : 37221sec
```

Example of Related ProVision Software Command Output.

```
HP Switch# show ipv6 route static

IPv6 Route Entries

Destination : 2620:a::/64
Gateway : 2620:b::22:1
Type : static Sub-Type : NA Distance : 1 Metric : 1

Destination : 2620:c::/64
Gateway : 2620:e::55:2
Type : static Sub-Type : NA Distance : 1 Metric : 1
```

Operating Notes

For more information, refer to the latest *IPv6 Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display lacp system-id

Comware	Related ProVision
display lacp system-id	show lacp local

Displays the system ID of the local system. The system LACP priority and the system MAC address comprise the system ID.

```
HP Switch# display lacp system-id

Actor System ID: 0x2f00, 001871-c42f00
```

Field Descriptions

Actor System ID: The local system ID, including system LACP priority and system MAC address. In the above example:

- `0x2f00 =`
  System LACP Priority
- `001871-c42f00 =`
  System MAC Address

Operating Notes

To enable LACP operation in ProVision software, use the following command from the context of a port interface on which you want to enable LACP:

```
lacp
```

For more on LACP operation in ProVision software, refer to the "Port Trunking" chapter in the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output. The ProVision software includes a list of ports configured for LACP operation, along with some additional data fields.

```
HP Switch(eth-A13-A14)# show lacp local

LACP Local Information.

System ID: 001871-c42f00

              LACP                    Tx      Rx Timer
  Port Trunk  Mode      Aggregated    Timer   Expired
  ---- ------ -------- ----------- ------ --------
  A13  A13    Active   Yes         Fast   No
  A14  A14    Active   Yes         Fast   No
```

lacp system-id Field Mappings.

Comware	ProVision Software
Actor System ID	System ID
n/a	Port
n/a	Trunk
n/a	LACP Mode
n/a	Aggregated

Comware	ProVision Software
n/a	Tx Timer
n/a	Rx Timer Expired

display link-aggregation

Comware	Related ProVision
display link-aggregation load-sharing mode	n/a

Displays the load-sharing criteria for load-sharing link-aggregation (trunk) groups.

NOTE: *Link-aggregation* in ProVision software is termed *port trunking*. *Load-sharing* is termed *load-balancing*.

When load-balancing is configured as L4-based, the load-sharing mode includes source and destination MAC address, source and destination IP address, and source and destination TCP/UDP port number, as shown below.

```
HP Switch(config)# display link-aggregation load-sharing mode
Layer 4 traffic: destination-mac address, source-mac address,
                 destination-ip address,  source-ip address,
                 destination-port,        source-port
```

When load-balancing is configured as L3-based, the load-sharing mode includes source and destination MAC address, and source and destination IP address, as shown below.

```
HP Switch(config)# display link-aggregation load-sharing mode
Layer 3 traffic: destination-mac address, source-mac address
                 destination-ip address,  source-ip address
```

Operating Notes

To enable trunk load-balancing in ProVision software, use the following command in the global configuration context:

```
trunk < port-list > trkn trunk
trunk-load-balance < L3-based | L4-based >
```

For more on trunk load-balancing, refer to the "Port Trunking" chapter in the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.08.

display lldp status interface interface-type interface number

Comware	Related ProVision
display lldp status interface interface-type interface number	No equivalent ProVision software command

Displays information about Link Layer Discovery Protocol (LLDP) and Link Level Discovery Protocol-Media Endpoint Discovery (LLDP-MED) configuration and capabilities on the switch. LLDP and LLDP-MED are used to learn about and to distribute device information on network links.

```
HP Switch# display lldp status interface 1

Port 1 :
Port status of LLDP            : Enable
Admin status                   : Tx_Rx
Trap flag                      : No
Polling interval               : 0s

Number of neighbors             0
Number of MED neighbors        : 0
Number of CDP neighbors        : 0
Number of sent optional TLV    : 0
Number of received unknown TLV : 0
```

Minimum Software Version: 15.10.

display local-proxy-arp

Comware	Related ProVision
display local-proxy-arp	show ip

Displays the status of the local proxy ARP. If an interface is specified, the local proxy ARP status of the specified interface is displayed. If no interface is specified, the local proxy ARP status of all interfaces is displayed.

```
HP Switch(config)# display local-proxy-arp

VLAN30
 Local Proxy ARP status: disabled

VLAN33
 Local Proxy ARP status: disabled
```

Operating Notes

For more information, see the "IP Routing Features" chapter in the latest *Multicast and Routing Guide* for your switch.

Minimum Software Version: 15.11.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show ip

 Internet (IP) Service

  IP Routing : Disabled

  Default TTL     : 64
  Arp Age         : 20
  Domain Suffix   :
  DNS server      :

  VLAN                | IP Config  IP Address      Subnet Mask     Proxy ARP
  ------------------- + ---------- --------------- --------------- ---------
  DEFAULT_VLAN        | DHCP/Bootp 15.255.157.54   255.255.248.0   Yes Yes
  VLAN2100            | Disabled
```

display logfile buffer

Comware	Related ProVision
display logfile buffer	show logging

Displays system log information.

```
HP Switch# display logfile buffer
%@00061%Jan 01 00:00:47 2090 system: -------------------------
%@00062%Jan 01 00:00:47 2090 system: Mgmt Module 1 went down
without saving crash information
%@03002%Jan 01 00:00:47 2090 system: System reboot due to Reset
Switch
%@02759%Jan 01 00:00:47 2090 chassis: Savepower LED timer is
OFF.
%@00433%Jan 01 00:00:47 2090 ssh: Ssh server enabled
%@00092%Jan 01 00:00:47 2090 dhcp: Enabling Auto Image Config
Download via DHCP and turning off auto-tftp if enabled
%@00690%Jan 01 00:00:48 2090 udpf: DHCP relay agent feature
enabled
%@02637%Jan 01 00:00:48 2090 srcip: TACACS admin policy is
'outgoing interface'
%@02638%Jan 01 00:00:48 2090 srcip: TACACS oper policy is
'outgoing interface'
%@02637%Jan 01 00:00:48 2090 srcip: RADIUS admin policy is
'outgoing interface'
%@02638%Jan 01 00:00:48 2090 srcip: RADIUS oper policy is
'outgoing interface'
%@02637%Jan 01 00:00:48 2090 srcip: SYSLOG admin policy is
'outgoing interface'
%@02638%Jan 01 00:00:48 2090 srcip: SYSLOG oper policy is
'outgoing interface'
%@02637%Jan 01 00:00:48 2090 srcip: TELNET admin policy is
'outgoing
```

Example of Related ProVision Software Command Output.

```
HP Switch# show logging
Keys: W=Warning I=Information
M=Major D=Debug E=Error
---- Event Log listing: Events Since Boot ----
I 10/28/09 21:45:42 00061 system: AM1: ------------------------
I 10/28/09 21:45:42 00062 system: AM1: Mgmt Module 1 went down
without saving crash information
M 10/28/09 21:45:42 03002 system: AM1: System reboot due to
Reset Switch
I 10/28/09 21:45:42 02759 chassis: AM1: Savepower LED timer is
OFF.
I 10/28/09 21:45:42 02751 chassis: AM1: LEDs for module in slot
A configured ON.
I 10/28/09 21:45:42 02751 chassis: AM1: LEDs for module in slot
B configured ON.
I 10/28/09 21:45:42 02751 chassis: AM1: LEDs for module in slot
C configured ON.
I 10/28/09 21:45:42 02751 chassis: AM1: LEDs for module in slot
D configured ON.
I 10/28/09 21:45:42 02751 chassis: AM1: LEDs for module in slot
E configured ON.
I 10/28/09 21:45:42 02751 chassis: AM1: LEDs for module in slot
F configured ON.
I 10/28/09 21:45:42 02751 chassis: AM1: LEDs for module in slot
G configured ON.
```

```
I 10/28/09 21:45:42 02751 chassis: AM1: LEDs for module in slot
H configured ON.
I 10/28/09 21:45:42 02751 chassis: AM1: LEDs for module in slot
I configured ON.
I 10/28/09 21:45:42 02751 chassis: AM1: LEDs for module in slot
J configured ON.
I 10/28/09 21:45:42 02751 chassis: AM1: LEDs for module in slot
K configured ON.
I 10/28/09 21:45:42 02751 chassis: AM1: LEDs for module in slot
L configured ON.
I 10/28/09 21:45:42 00937 chassis: AM1: Fabric 1 inserted
I 10/28/09 21:45:42 00937 chassis: AM1: Fabric 2 inserted
I 10/28/09 21:45:43 00092 dhcp: AM1: Enabling Auto Image Config
Download via DHCP and turning off auto-tftp if enabled
I 10/28/09 21:45:43 00690 udpf: AM1: DHCP relay agent feature
enabled
I 10/28/09 21:45:43 02637 srcip: AM1: TACACS admin policy is
'outgoing interface'
I 10/28/09 21:45:43 02638 srcip: AM1: TACACS oper policy is
'outgoing interface'
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display mac-address

Comware	Related ProVision
display mac-address	show mac-address

Displays information about the MAC address table.

```
HP Switch# display mac-address

MAC ADDR      VLAN ID STATE     PORT INDEX    AGING TIME(s)
001635-22ca40   1      Learned       A1                AGING
001635-22ca7f   1      Learned       A1                AGING
001122-334455   2     Config static  A2               NOAGED

  --- 3 mac address(es) found ---
```

Example of Related ProVision Software Command Output.

```
HP Switch# show mac-address 000009-21ae04
Status and Counters - Address Table - 080009-21ae84
MAC Address : 080009-21ae84
Locate on Port : A2
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display mac-address multicast

Comware	Related ProVision
display mac-address multicast	No equivalent ProVision software command

Displays static multicast MAC address entries.

```
HP Switch# display mac-address multicast
MAC ADDR    VLAN ID STATE      PORT INDEX     AGING TIME(s)
010122-334455  1      Multicast     A1               NOAGED
012222-334455  1      Multicast     F24              NOAGED

  --- 2 mac address(es) found ---
```

Minimum Software Version: 15.10.

display mac-authentication [interface …]

Comware	Related ProVision
display mac-authentication [interface ...]	show port-access mac-based

Displays MAC authentication settings and statistics.

```
HP Switch# display mac-authentication interface configuration
MAC address authentication is n/a
 User name format is no-delimiter like aabbccddeeff
 Fixed Username:n/a
 Fixed password:not configured
         Offline detect period is 0s
         Quiet period is 0s
         Server response timeout value is 0s
         The max allowed user number is n/a per slot
         Current user number amounts to 0
         Current domain: n/a
Silent MAC User info:
        MAC Addr        From Port                    Port Index
           n/a              n/a                          n/a
A1 is link-up
  MAC address authentication is disabled
  Authenticate success: n/a, failed: n/a
 Max number of on-line users is 1
  Current online user number is 0
        MAC Addr         Authenticate state         AuthIndex
A2 is link-down
  MAC address authentication is disabled
  Authenticate success: n/a, failed: n/a
 Max number of on-line users is 1
  Current online user number is 0
        MAC Addr         Authenticate state         AuthIndex
```

Example of Related ProVision Software Command Output.

```
HP Switch# show port-access mac-based config

Port Access MAC-Based Configuration

MAC Address Format : no-delimiter
Password : secretMAC1

Unauth Redirect Configuration URL :

Unauth Redirect Client Timeout (sec) : 1800

Unauth Redirect Restrictive Filter : Disabled
Total Unauth Redirect Client Count : 0

      Client Client Logoff Re-Auth  Unauth  Auth     Cntrl
Port Enabled Limit  Moves  Period  Period  VLAN ID VLAN ID  Dir
---- ------- ------ ------ ------- ------- ------- -------- -----
1      No       1     No      300     0       0        0    both
2      No       1     No      300     0       0        0    both
3      No       1     No      300     0       0        0    both
4      No       1     No      300     0       0        0    both
5      No       1     No      300     0       0        0    both
6      No       1     No      300     0       0        0    both
7      No       1     No      300     0       0        0    both
8      No       1     No      300     0       0        0    both
```

Operating Notes

For more information, refer to the latest *Access Security Guide* for your switch.

Minimum Software Version: 15.10.

display memory

Comware	Related ProVision
display memory	show system information

Displays the current memory usage on the switch.

```
HP Switch(config)# display memory
System Total Memory(bytes): 128090112
Total Used Memory(bytes): 47385504
Used Rate: 36%
```

Field Descriptions

System Total Memory (bytes): Total system memory in the switch.

Total Used Memory (bytes): Total system memory in use.

Used Rate: Percentage of system memory in use.

Operating Notes

To display memory usage in ProVision Software, use the following command:

```
HP Switch# show system information
```

This command lists the total memory and free memory available in the switch, along with other system-related information.

For more on system information, refer to the "Interface Access and System Information" chapter in the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

```
HP Switch# show system information

 Status and Counters - General System Information

  System Name         : HP Switch
  System Contact      :
  System Location     :

  MAC Age Time (sec)  : 300

  Time Zone           : -480
  Daylight Time Rule  : Continental-US-and-Canada


  Software revision : K.15.08.0003          Base MAC Addr      : 001871-c42f00
  ROM Version       : K.15.27               Serial Number      : SG641SU00L
  Allow V1 Modules  : Yes                   Opacity Shields    : Not Installed

  Up Time           : 3 hours               Memory   - Total  : 128,040,960
  CPU Util (%)      : 0                               Free   : 80,694,816

  IP Mgmt - Pkts Rx : 126,890               Packet   - Total  : 6750
            Pkts Tx : 5123                  Buffers    Free   : 5086
                                                       Lowest : 5051
                                                       Missed : 0
```

display mld group

Comware	Related ProVision
display mld group	show ipv6 mld

Displays the number of active MLD (Multicast Listener Discovery) groups and the VLAN and IPv6 address on which each group is active.

```
HP Switch# display mld group
Total 4 MLD Group(s).
Interface group report information
 Vlan-Interface1(1234:1::5):
  Total 1 MLD Groups reported
  Group Address : ff1e::1
   Last Reporter : fe80::200:f7ff:fe95:4f5d
   Uptime : 00:45:00
   Expires : 00:03:20
 Vlan-Interface2(1234:3::5):
  Total 2 MLD Groups reported
  Group Address : ff1e::3
   Last Reporter : fe80::200:f7ff:fe95:da95
   Uptime : 00:43:28
   Expires : 00:03:16
  Group Address : ff1e::4
   Last Reporter : fe80::200:f7ff:fe95:da95
   Uptime : 00:43:28
   Expires : 00:03:16
 Vlan-Interface10(1234:2::5):
  Total 1 MLD Groups reported
  Group Address : ff1e::5
   Last Reporter : fe80::200:f7ff:fe95:9c92
   Uptime : 00:43:41
   Expires : 00:03:20
```

Field Descriptions

Total *n* MLD Groups: The total number of MLD groups detected on the switch.

VLAN-interface< *id* > (< *ipv6-addr* >): A specific VLAN interface.

Total *n* MLD Groups reported: The number of MLD groups detected on the indicated VLAN.

Group Address: The IPv6 address of an MLD group detected on the indicated VLAN.

- **Last Reporter:** The IPv6 address of the host that last reported membership for the group.
- **Uptime:** Length of time since the IPv6 multicast group was joined.
- **Expires:** Time remaining for the IPv6 multicast group.

Operating Notes

The **display mld group** command reports on MLD traffic on static VLANs.

The switch supports MLDv1 and MLDv2.

To enable MLD operation in ProVision software, use the following command in a VLAN configuration context:

```
ipv6 mld < enable | disable >
```

For example:

```
HP Switch(vlan-10)# ipv6 mld enable
```

For more on MLD, including additional MLD commands, see the "Multicast Listener Discovery (MLDv1 and MLDv2)" chapter in the latest *IPv6 Configuration Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show ipv6 mld

  MLD Service Protocol Info

  Total vlans with MLD enabled                  : 2
  Current count of multicast groups joined      : 2

  VLAN ID : 1      NAME : DEFAULT_VLAN
  MLD Version : 2

  MLD Interface State : Querier
  Querier Address     : fe80::218:71ff:fec4:2f00 [this switch]
          Version     : 2
          Uptime      : 11m 55s
          Expires     : 1m 5s
  Ports with multicast routers :

  Active Group Addresses                   Tracking Vers Mode Uptime   Expires
  ---------------------------------------- -------- ---- ---- -------- --------
  ff3e:30:2001:db8:8:0:7:101               Filtered 2    EXC  20h 55m  22h 50m

  VLAN ID : 2      NAME : VLAN2
  MLD Version : 2

  MLD Interface State : Non-Querier
  Querier Address     : ::
          Version     : -
          Uptime      : -
          Expires     : -
  Ports with multicast routers :

  Active Group Addresses                   Tracking Vers Mode Uptime   Expires
  ---------------------------------------- -------- ---- ---- -------- --------
  ff33:30:2001:db8:8:0:7:102               Filtered 2    INC  10m 40s  12m 17s
```

display mld group port-info vlan <vlan-id>
display mld group port-info

Comware	Related ProVision
display mld group port-info vlan <vlan-id> display mld group port-info	No equivalent ProVision software command

Displays Layer 2 port information of MLD groups, including Layer 2 information of dynamic and static MLD group entries.

```
HP Switch# display mld group port-info
  Total 1 IP Group(s).
  Total n/a IP Source(s).
  Total n/a MAC Group(s).
  Port flags: D-Dynamic port, S-Static port, C-Copy port
  Subvlan flags: R-Real VLAN, C-Copy VLAN
  Vlan(id):100.
    Total 3 IP Group(s).
    Total n/a IP Source(s).
    Total n/a MAC Group(s).
    Router port(s):total 0 port(s).
   IP group(s):the following ip group(s) match to one mac group.
      IP group address:FF13::1
        (::, FF13::1):
          Host port(s):total 1 port(s).
            GE2/0/1 (D)
    MAC group(s): n/a
HP Switch# display mld group port-info vlan 100
  Total 1 IP Group(s).
  Total n/a IP Source(s).
  Total n/a MAC Group(s).
  Port flags: D-Dynamic port, S-Static port, C-Copy port
  Subvlan flags: R-Real VLAN, C-Copy VLAN
  Vlan(id):100.
    Total 3 IP Group(s).
    Total n/a IP Source(s).
    Total n/a MAC Group(s).
    Router port(s):total 0 port(s).
   IP group(s):the following ip group(s) match to one mac group.
      IP group address:FF13::1
        (::, FF13::1):
          Host port(s):total 1 port(s).
           A1 (D)
    MAC group(s): n/a
```

Minimum Software Version: 15.10.

display mld routing-table

Comware	Related ProVision
display mld routing-table	No equivalent ProVision software command

Displays information about the MLD routing table.

```
HP Switch# display mld routing-table
Routing table
 Total 2 entries
 00001. (*, 2ffd::1)
       List of 2 downstream interfaces
        Vlan-interface100 (fe80::3ee5:a6ff:fe18:1142),
                   Protocol: MLD
        Vlan-interface200 (fe80::3ee5:a6ff:fe18:1143),
                   Protocol: MLD
 00002. (2ffc::9, 2ffd::1)
       List of 2 downstream interfaces in exclude mode
        Vlan-interface100 (fe80::3ee5:a6ff:fe18:1142),
                   Protocol: MLD
        Vlan-interface200 (fe80::3ee5:a6ff:fe18:1143),
                   Protocol: MLD
```

Minimum Software Version: 15.10.

display multicast forwarding-table

Comware	Related ProVision
display multicast forwarding-table	No equivalent ProVision software command

Displays multicast forwarding table information. If neither all-instance nor vpn-instance is specified, this command displays the information on the public network. Multicast forwarding tables guide multicast forwarding. You can view the forwarding state of multicast traffic by checking the multicast forwarding table.

```
HP Switch# display multicast forwarding-table

Multicast Forwarding Table of VPN-Instance: n/a

Total 1 entry

Total 1 entry matched

00001. (30.30.30.1, 239.1.1.1)
     MID: n/a, Flags: 0x2:0
     Uptime: 00:00:21, Timeout in: 00:00:02
     Incoming interface: Vlan-interface10
     List of 1 outgoing interfaces:
       1: Vlan-interface20
     Matched 2 packets(bytes n/a), Wrong If 0 packets
     Forwarded 0 packets(0 bytes)
```

Minimum Software Version: 15.10.

display multicast routing-table

Comware	Related ProVision
display multicast routing-table	show ip mroute

Displays multicast routing table information. Multicast routing tables are the basis of multicast forwarding. You can view the establishment state of an (S, G) entry by checking the multicast routing table.

```
HP Switch# display multicast routing-table
Multicast routing table of VPN-Instance: public net
Total 1 entry,1 matched

 00001. (20.20.20.2, 239.1.1.1)
   Uptime: 00:00:20
   Upstream Interface: 10
   List of 1 downstream interfaces
     1: Vlan-interface30

HP Switch# display multicast routing-table 20.20.20.1 239.1.1.1
Multicast routing table of VPN-Instance: public net
Total 1 entry,1 matched

 00001. (20.20.20.2, 239.1.1.1)
   Uptime: 00:00:20
   Upstream Interface: 10
   List of 1 downstream interfaces
     1: Vlan-interface30

HP Switch# display multicast routing-table 20.20.20.1 239.1.1.1
incoming-interface Vlan-interface 20
Multicast routing table of VPN-Instance: public net
Total 1 entry,1 matched

 00001. (20.20.20.2, 239.1.1.1)
   Uptime: 00:00:20
   Upstream Interface: 10
   List of 1 downstream interfaces
     1: Vlan-interface30

HP Switch# display multicast routing-table 20.20.20.1 239.1.1.1
incoming-interface Vlan-interface 20 outgoing-interface Vlaninterface
30
Multicast routing table of VPN-Instance: public net
Total 1 entry,1 matched

 00001. (20.20.20.2, 239.1.1.1)
   Uptime: 00:00:20
   Upstream Interface: 10
   List of 1 downstream interfaces
     1: Vlan-interface30
```

Example of Related ProVision Software Command Output.

```
HP Switch# show ip mroute
IP Multicast Route Entries
Total number of entries : 2
Group Address   Source Address   Neighbor   VLAN
--------------- --------------- ---------- ----
239.255.255.1   10.27.30.2      10.29.30.1   29
239.255.255.5   10.27.30.2      10.29.30.1   29
```

Operating Notes

For more information, refer to the latest *Multicast and Routing Guide* for your switch.

Minimum Software Version: 15.10.

display multicast rpf-info

Comware	Related ProVision
display multicast rpf-info	No equivalent ProVision software command

Displays rpf override information of a multicast source.

```
HP Switch# display multicast rpf-info 10.10.10.10
 RPF information about source 10.10.10.10:
     VPN instance: n/a
     RPF interface: Vlan-Interface 10
     Referenced route/mask: 40.40.40.40/32
     Referenced route type: n/a
     Route selection rule: n/a
     Load splitting rule: n/a
```

Minimum Software Version: 15.10.

display ospf interface

Comware	Related ProVision
display ospf interface	show ip ospf interface

Displays OSPF interface information for all OSPF processes.

```
HP Switch(config)# display ospf interface

  OSPF Process 1 with Router ID : 192.168.1.1
  Area : 0.0.0.0

  IP Address      Type      State   Cost  Pri DR              BDR
  --------------- --------- ------- ----- --- --------------- ---------------
  192.168.1.1     PTP       P-2-P   1562  1   0.0.0.0         0.0.0.0

   Area : 0.0.0.1

  IP Address      Type      State   Cost  Pri DR              BDR
  --------------- --------- ------- ----- --- --------------- ---------------
  172.16.0.1      BROADCAST DR      1562  1  172.16.0.1      0.0.0.0
```

Field Descriptions

Area: Area ID of the interface.

IP Address: Interface IP address.

Type: Interface network type (PTP, PTMP, Broadcast, or NBMA.

State: Interface state:

- **Down:** No protocol traffic will be sent or received on the interface.
- **Waiting:** The interface starts sending and receiving Hello packets and the router is trying to determine the identity of the backup designated router for the network.
- **p-2-p:** The interface will send Hello packets at the interval of HelloInterval, and try to establish an adjacency with the neighbor.
- **DR:** The router itself is the designated router on the attached network.
- **BDR:** The router itself is the backup designated router on the attached network.
- **DROther:** The interface is on a network on which another router is the designated router.

Cost: Interface cost.

Pri: Router priority.

DR: The DR on the interface's network segment.

BDR: The BDR on the interface's network segment.

Operating Notes

To enable OSPF operation in ProVision software, use the following command in the global configuration context:

```
router ospf enable
```

For more on configuring OSPF, including additional OSPF configuration commands, see the "Configuring OSPF" chapter in the latest *Multicast and Routing Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show ip ospf interface
```

```
OSPF Interface Status

 IP Address      Status    Area ID         State   Auth-type Cost  Pri Passive
 --------------- --------  --------------- ------- --------- ----- --- -------
 172.16.0.1      enabled   backbone        DR       none     1562  1   no
```

OSPF Interface Field Mappings.

Comware	ProVision Software
Area	Area ID
IP Address	IP Address
n/a	Status
Type	n/a
State	State
n/a	Auth-Type
Cost	Cost
PRI	PRI
n/a	Passive
DR	n/a
BDR	n/a

display ospf routing

Comware	Related ProVision
display ospf routing	show ip ospf

Displays OSPF routing information for all OSPF processes.

```
HP Switch(config)# display ospf routing

                    OSPF Process 1 with Router ID 192.168.1.2
                                Routing Tables
Routing for Network
Destination     Cost   Type   NextHop         AdvRouter       Area
192.168.1.0/24  1562   Stub   192.168.1.2     192.168.1.2     0.0.0.0
172.16.0.0/16   1563   Inter  192.168.1.1     192.168.1.1     0.0.0.0

Total Nets: 2

Intra Area: 1  Inter Area: 1  ASE: 0  NSSA: 0
```

Field Descriptions

Destination: Destination network.

Cost: Cost to destination.

Type: Route type (intra-area, transit, stub, inter-area, type 1 external, type 2 external.

NextHop: Next hop address.

AdvRouter: Advertising router.

Area: Area ID.

Total Nets: Total networks.

Intra Area: Total intra-area routes.

Inter Area: Total inter-area routes.

ASE: Total ASE routes.

NSSA: Total NSSA routes.

Operating Notes

To enable OSPF operation in ProVision software, use the following command in the global configuration context:

```
router ospf enable
```

For more on configuring OSPF, including additional OSPF configuration commands, see the "Configuring OSPF" chapter in the latest *Multicast and Routing Guide* for your switch.

Minimum Software Version: 15.08.

display ospf vlink

Comware	Related ProVision
display ospf vlink	show ip ospf virtual-link

Displays OSPF virtual link information.

```
HP Switch# display ospf vlink
           OSPF Process 1 with Router ID 3.3.3.3
                   Virtual Links

Virtual-link Neighbor-ID -> 2.2.2.2, Neighbor-State: Full
Interface: 10.1.2.1 (Vlan-interface11)
Cost: 1562 State: P-2-P Type: Virtual
Transit Area: 0.0.0.1
Timers: Hello 10 , Dead 40 , Retransmit 5 , Transmit Delay 1
```

Field Descriptions

Virtual-link Neighbor-ID: ID of the neighbor connected to the router via the virtual link.

Neighbor-State: Neighbor's operating state (**Down**, **Init**, **2-Way** , **ExStart**, **Exchange**, **Loading Full**).

Interface: Local interface's IP address and name of the virtual link.

Cost: Interface route cost.

State: Interface state.

Type: Link type (virtual link).

Transit Area: Transit area ID.

Timers: Values of the hello, dead, poll (NBMA), retransmit, and interface transmission delay timers.

Operating Notes

To enable OSPF operation in ProVision software, use the following command in the global configuration context:

```
router ospf enable
```

For more on configuring OSPF, including virtual links and other OSPF operation, see the "Configuring OSPF" chapter in the latest *Multicast and Routing Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show ip ospf virtual-link


 OSPF Virtual Interface Status

  Transit AreaID  Neighbor Router Authentication  Interface State
  --------------- --------------- --------------- ---------------
  0.0.0.1         2.2.2.2         none            P2P
```

ospf vlink Field Mappings.

Comware	ProVision Software
Virtual-link Neighbor ID	Neighbor Router
Neighbor-State	Interface State

Comware	ProVision Software
Interface	n/a
Cost	n/a
State	n/a
Transit Area	Transit AreaID
Timers	n/a
n/a	Authentication

display ospfv3

Comware	Related ProVision
display ospfv3	show ipv6 ospf3

Displays brief information about OSPFv3.

```
HP Switch# display ospfv3
 Routing Process "OSPFv3 (1)" with ID 3.3.3.3
 Graceful restart restarter disabled
 Graceful restart helper enabled
 Graceful restart helper strict-lsa-checking disabled
 Graceful restart interval n/a
 SPF schedule delay 5 secs, Hold time between SPFs 10 secs
 Minimum LSA interval n/a, Minimum LSA arrival n/a
 Number of external LSA 1. These external LSAs' checksum Sum
 0x7741
 Number of AS-Scoped Unknown LSA 0
 Number of LSA originated 4
 Number of LSA received 0
 Number of areas in this router is 2
   Area BACKBONE(0)
        Number of interfaces in this area is 1
        SPF algorithm executed 0 times
        Number of LSA 0. These LSAs' checksum Sum 0x0000
        Number of Unknown LSA 0
  Area 0.0.0.1
        Number of interfaces in this area is 1
        SPF algorithm executed 9 times
        Number of LSA 2. These LSAs' checksum Sum 0x1A56A
        Number of Unknown LSA 0
```

Example of Related ProVision Software Command Output.

```
HP Switch# show ipv6 ospf3 general
OSPFv3 General Status
OSPFv3 protocol :enabled
Router ID :10.10.10.80
...
Nonstop forwarding : Enabled
Graceful Restart Interval : 500
Graceful Restart Helper Mode : Enabled
...
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display ospfv3 lsdb

Comware	Related ProVision
display ospfv3 lsdb	show ipv6 ospf3 link-state

Displays OSPFv3 LSDB information. This command is available only in manager mode.

```
HP Switch# display ospfv3 lsdb
             OSPFv3 Router with ID (2.2.2.2) (Process 1)
               Link-LSA (Interface Vlan-interface1)
-------------------------------------------------------------------------
Link State ID   Origin Router    Age   SeqNum     CkSum  Prefix
5.178.0.0       1.1.1.1          1082  0x8000000c 0x31c7      1
5.178.0.0       2.2.2.2          0896  0x8000000b 0xe23c      1

               Link-LSA (Interface Vlan-interface2)
-------------------------------------------------------------------------
Link State ID   Origin Router    Age   SeqNum     CkSum  Prefix
5.178.0.1       2.2.2.2          0896  0x8000000b 0x0f0d      1
5.178.0.1       3.3.3.3          0654  0x8000000b 0xcf90      1

               Router-LSA (Area 0.0.0.0)
-------------------------------------------------------------------------
Link State ID   Origin Router   Age    SeqNum   CkSum    Link
0.0.0.0         1.1.1.1         0892   0x8000000e 0x8e0c      1
0.0.0.0         2.2.2.2         0376   0x8000000d 0x7b19      1

               Network-LSA (Area 0.0.0.0)
-------------------------------------------------------------------------
Link State ID   Origin Router    Age   SeqNum     CkSum
5.178.0.0       1.1.1.1          0887   0x80000016 0xcc7f

              Inter-Area-Prefix-LSA (Area 0.0.0.0)
-------------------------------------------------------------------------
Link State ID  Origin Router    Age   SeqNum     CkSum
0.0.0.1        2.2.2.2          0886  0x8000000b 0x7962

              Intra-Area-Prefix-LSA (Area 0.0.0.0)
-------------------------------------------------------------------------
Link State ID Origin Router   Age  SeqNum    CkSum Prefix   Reference
0.0.0.2      1.1.1.1        0892 0x8000000b 0x05ee    1   Network-LSA

              Router-LSA (Area 0.0.0.1)
-------------------------------------------------------------------------
Link State ID  Origin Router    Age   SeqNum     CkSum    Link
0.0.0.0        2.2.2.2          0376  0x80000010 0xe7a3      1
0.0.0.0        3.3.3.3          0649  0x8000000c 0xc8c5      1

              Network-LSA (Area 0.0.0.1)
-------------------------------------------------------------------------
Link State ID  Origin Router    Age   SeqNum     CkSum
5.178.0.1      2.2.2.2          0371  0x80000018 0xf448

               Inter-Area-Prefix-LSA (Area 0.0.0.1)
-------------------------------------------------------------------------
Link State ID  Origin Router    Age   SeqNum     CkSum
0.0.0.1        2.2.2.2          0891  0x8000000b 0x6d6f

              Intra-Area-Prefix-LSA (Area 0.0.0.1)
-------------------------------------------------------------------------
Link State ID Origin Router   Age  SeqNum    CkSum  Prefix  Reference
0.0.0.2       2.2.2.2       0651 0x8000000b 0x37b2     1  Network-LSA
```

```
               AS-external-LSA
-------------------------------------------------------------------------
Link State ID   Origin Router    Age  SeqNum     CkSum
0.0.0.1         2.2.2.2          0375 0x8000000b 0x999a
0.0.0.2         2.2.2.2          0570 0x80000002 0x6ebc
```

Minimum Software Version: 15.10.

display ospfv3 lsdb statistics

Comware	Related ProVision
display ospfv3 lsdb statistics	No equivalent ProVision software command

Displays LSA statistics in the OSPFv3 LSDB. This command is available only in manager mode.

```
HP Switch# display ospfv3 lsdb statistics
            OSPFv3 Router with ID (2.2.2.2) (Process 1)
                          LSA Statistics
----------------------------------------------------------------------
Area ID     Router Network IntePre InteRou IntraPre Link Grace ASE
0.0.0.0        5     5      5       5      5
0.0.0.1        5     5      5       5      5
Total         10    10     10      10     10        5    0      5
```

Minimum Software Version: 15.10.

display ospfv3 peer statistics

Comware	Related ProVision
display ospfv3 peer statistics	No equivalent ProVision software command

Displays information about all OSPFv3 neighbors on the router, that is, number of neighbors in different states.

```
HP Switch# display ospfv3 peer statistics
            OSPFv3 Router with ID (2.2.2.2) (Process 1)
                          Neighbor Statistics
------------------------------------------------------------------------
Area ID         Down Attempt Init 2-Way ExStart Exchange Loading Full
0.0.0.0         0    0       0    0     0       0        0       1
0.0.0.1         0    0       0    0     0       0        0       1
Total           0    0       0    0     0       0        0       2
```

Minimum Software Version: 15.10.

display ospfv3 vlink

Comware	Related ProVision
display ospfv3 vlink	show ipv6 ospf3 virtual-link ?

Displays OSPFv3 virtual link information.

```
HP Switch# display ospfv3 vlink

    Virtual Link VLINK1 to router 1.1.1.1 is up

      Transit area :0.0.0.1 via interface Vlan-interface11, instance ID: 0

      Local address: 2000:1::1

      Remote address: 2001:1:1::1

      Transmit Delay is 1 sec, State: P-To-P,

       Timer intervals configured, Hello: 10, Dead: 40, Wait: 40, Retransmit: 5

         Hello due in 00:00:02

         Adjacency state :Full
```

Field Descriptions

Virtual Link: The virtual link name and destination router ID.

Transit area: The VLAN interface ID and transit area.

Instance ID: Instance identity.

Local address: The local router IPv6 address.

Remote address: The remote router IPv6 address.

Transmit Delay: The transmit delay for sending LSAs.

State: The state of the interface, such as P-To-P.

Timer intervals: The configured timer intervals for **Hello**, **Dead**, **Wait**, and **Retransmit**.

Hello due in: The interval until the next Hello packet is sent.

Adjacency state: The current virtual neighbor adjacency state

Operating Notes

To configure OSPFv3 operation in ProVision software, see the “OSPFv3 Routing” chapter in the latest *IPv6 Configuration Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show ipv6 ospf3 virtual-link

 OSPFv3 Virtual Interface Status

  Transit AreaID  Neighbor Router Interface State

  --------------- --------------- ---------------
  0.0.0.1         1.1.1.1         P2P
```

ospfv3 vlink Field Mappings.

Comware	ProVision Software
Virtual Link	Neighbor Router
Transit area	Transit AreaID
Local address	n/a
Remote address	n/a
Transmit Delay	n/a
State	Interface State
Timer intervals	n/a
Hello due	n/a
Adjacency state	n/a

display pim control-message counters

Comware	Related ProVision
display pim control-message counters	No equivalent ProVision software command

Displays statistics information of PIM control messages.

```
HP Switch# display pim control-message counters
VPN-Instance: n/a
 PIM global control-message counters:
                  Received         Sent             Invalid
Register          0                0                0
Register-Stop     0                0                0
Probe             n/a              n/a              n/a

PIM control-message counters for interface: Vlan-interface10
                 Received         Sent             Invalid
Assert           0                0                0
Graft            0                0                0
Graft-Ack        0                0                0
Hello            0                0                0
Join/Prune       0                0                0
State-Refresh    0                0                0
BSR              0                0                0
C-RP             0                0                0

PIM control-message counters for interface: Vlan-interface30
                 Received         Sent             Invalid
Assert           0                0                0
Graft            0                0                0
Graft-Ack        0                0                0
Hello            0                0                0
Join/Prune       0                0                0
State-Refresh    0                0                0
BSR              0                0                0
C-RP             0                0                0
```

Minimum Software Version: 15.10.

display pim grafts

Comware	Related ProVision
display pim grafts	No equivalent ProVision software command

Displays information about unacknowledged PIM-DM graft messages.

```
HP Switch# display pim grafts

vlan 1
   name "DEFAULT_VLAN"
   no untagged 1-2,48
  untagged 3-47
  ip address dhcp-bootp
  exit

vlan 10
  name "VLAN10"
  untagged 1,48
  ip address 10.10.10.3 255.255.255.0
  ip igmp
  exit

vlan 30
  name "VLAN30"
  untagged 2
  ip address 30.30.30.2 255.255.255.0
  ip igmp
  ip rip 30.30.30.2
  ip pim-sparse
      ip-addr any
      exit
  exit
```

Minimum Software Version: 15.10.

display pim join-prune

Comware	Related ProVision
display pim join-prune	No equivalent ProVision software command

```
HP Switch# display pim join-prune mode sm
 VPN-Instance: public net
 Expiry Time: 51 sec
 Upstream nbr: 10.10.10.1 (Vlan-Interface10)
 1 (*, G) join(s), 1 (S, G) join(s), 0 (S, G, rpt) prune(s)
------------------------------------------------------------
Total (*, G) join(s): 1, (S, G) join(s): 1, (S, G, rpt) prune(s): 0
|...+....1....+....2....+....3....+....4....+....5....+....6.
...+....7....+....8
```

Minimum Software Version: 15.10.

display pim routing-table

Comware	Related ProVision
display pim routing-table	No equivalent ProVision software command

Displays the contents of the PIM multicast routing table, which includes SPT and RPF information.

```
HP Switch# display pim routing-table
VPN-Instance: public net
 Total 0 (*, G) entry; 1 (S, G) entry

 (172.168.0.12, 227.0.0.1)
     Protocol: pim-sm, Flag: LOC
     UpTime: 02:54:43
     Upstream interface: Vlan-interface20
         Upstream neighbor: NULL
         RPF prime neighbor: NULL
     Downstream interface(s) information:
     Total number of downstreams: 1
         1: Vlan-interface10
          Protocol: pim-sm, UpTime: 02:54:43, Expires: 00:02:47
```

Minimum Software Version: 15.10.

display pim rp-info

Comware	Related ProVision
display pim rp-info	No equivalent ProVision software command

Displays information about pim RP.

```
HP Switch# display pim rp-info
 VPN-Instance: public net
 PIM-SM BSR RP information:
 Group/MaskLen: 224.0.0.0/4
     RP: 10.10.10.11
     Priority: n/a
     HoldTime: 150
     Uptime: n/a
     Expires: 00:01:00
```

Minimum Software Version: 15.10.

display poe device

Comware	Related ProVision
display poe device	show power-over-ethernet brief

Displays the mapping between ID, module, and slot of the power sourcing equipment (PSE).

```
HP Switch# display poe device

PSE ID SlotNo SubSNo PortNum MaxPower(W)   State  Model
A       1      n/a    24      370           off    J9310A
```

Example of Related ProVision Software Command Output.

```
HP Switch# show power-over-ethernet brief
Status and Counters - Port Power Status
System Power Status : No redundancy
PoE Power Status : No redundancy
Available: 300 W Used: 0 W Remaining: 300 W
Module A Power
Available: 300 W Used: 5 W Remaining: 295 W
PoE    | Power  Power    Alloc Alloc Actual Configured Detection    Power
Port   | Enable Priority By    Power Power  Type       Status      Class
------ + ------ -------- ----- ----- ------ ---------- ----------- -----
A1     | Yes    low      usage 17 W  5.0 W  Phone1     Delivering  1
A2     | Yes    low      usage 17 W  0.0 W             Searching   0
A3     | Yes    low      usage 17 W  0.0 W             Searching   0
A4     | Yes    low      usage 17 W  0.0 W             Searching   0
A5     | Yes    low      usage 17 W  0.0 W             Searching   0
A6     | Yes    low      usage 17 W  0.0 W             Searching   0
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display poe interface

Comware	Related ProVision
display poe interface	show power-over-ethernet brief

Displays the PoE status of a specific port on the switch.

```
HP Switch# display poe interface

Interface   Enable  Priority   CurPower     Operating  IEEE     Detection
                               (W)           Status     Class    Status

1           enable  low         0.0         off        0        enabled
2           enable  low         0.0         off        0        enabled
3           enable  low         0.0         off        0        enabled
4           enable  low         0.0         off        0        enabled
5           enable  low         0.0         off        0        enabled
6           enable  low         0.0         off        0        enabled
7           enable  low         0.0         off        0        enabled
8           enable  low         0.0         off        0        enabled
9           enable  low         0.0         off        0        enabled
10          enable  low         0.0         off        0        enabled
11          enable  low         0.0         off        0        enabled
12          enable  low         0.0         off        0        enabled
13          enable  low         0.0         off        0        enabled
14          enable  low         0.0         off        0        enabled
15          enable  low         0.0         off        0        enabled
16          enable  low         0.0         off        0        enabled
17          enable  low         0.0         off        0        enabled
18          enable  low         0.0         off        0        enabled
19          enable  low         0.0         off        0        enabled
20          enable  low         0.0         off        0        enabled
21          enable  low         0.0         off        0        enabled
22          enable  low         0.0         off        0        enabled
23          enable  low         0.0         off        0        enabled
24          enable  low         0.0         off        0        enabled

 --- 24 port(s) on, 0.0 (W) consumed, 0.0 (W) remaining ---
```

Example of Related ProVision Software Command Output.

```
HP Switch# show power-over-ethernet brief
Status and Counters - Port Power Status
System Power Status : No redundancy
PoE Power Status : No redundancy
Available: 300 W Used: 0 W Remaining: 300 W
Module A Power
Available: 300 W Used: 5 W Remaining: 295 W
PoE     | Power  Power    Alloc Alloc Actual Configured  Detection   Power
Port    | Enable Priority By    Power Power  Type        Status      Class
------ + ------ -------- ----- ----- ------ ----------- ----------- -----
A1      | Yes    low      usage 17 W  5.0 W  Phone1      Delivering  1
A2      | Yes    low      usage 17 W  0.0 W              Searching   0
A3      | Yes    low      usage 17 W  0.0 W              Searching   0
A4      | Yes    low      usage 17 W  0.0 W              Searching   0
A5      | Yes    low      usage 17 W  0.0 W              Searching   0
A6      | Yes    low      usage 17 W  0.0 W              Searching   0
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display poe interface power

Comware	Related ProVision
display poe interface power	show power-over-ethernet brief

Displays the PoE power information of the specified port on the switch. If you enter the command without an argument, the PoE power information about all PoE-capable ports on the switch is displayed.

```
HP Switch# display poe interface power
Interface   CurPower  PeakPower   MaxPower  PD Description
             (W)        (W)         (W)
1            0.0        0.0         15.4
2            0.0        0.0         15.4
3            0.0        0.0         15.4
4            0.0        0.0         15.4
5            0.0        0.0         15.4
6            0.0        0.0         15.4
7            0.0        0.0         15.4
8            0.0        0.0         15.4
9            0.0        0.0         15.4
10           0.0        0.0         15.4
11           0.0        0.0         15.4
12           0.0        0.0         15.4
13           0.0        0.0         15.4
14           0.0        0.0         15.4
15           0.0        0.0         15.4
16           0.0        0.0         15.4
17           0.0        0.0         15.4
18           0.0        0.0         15.4
19           0.0        0.0         15.4
20           0.0        0.0         15.4
21           0.0        0.0         15.4
22           0.0        0.0         15.4
23           0.0        0.0         15.4
24           0.0        0.0         15.4

  --- 0 port(s) on, 0.0 (W) consumed, 0.0 (W) remaining ---
```

Example of Related ProVision Software Command Output.

```
HP Switch# show power-over-ethernet brief
Status and Counters - Port Power Status
System Power Status : No redundancy
PoE Power Status : No redundancy
Available: 300 W Used: 0 W Remaining: 300 W
Module A Power
Available: 300 W Used: 5 W Remaining: 295 W
PoE    | Power  Power    Alloc Alloc Actual Configured  Detection   Power
Port   | Enable Priority By    Power Power  Type        Status      Class
------ + ------ -------- ----- ----- ------ ----------- ----------- -----
A1     | Yes    low      usage 17 W  5.0 W  Phone1      Delivering  1
A2     | Yes    low      usage 17 W  0.0 W               Searching   0
A3     | Yes    low      usage 17 W  0.0 W               Searching   0
A4     | Yes    low      usage 17 W  0.0 W               Searching   0
A5     | Yes    low      usage 17 W  0.0 W               Searching   0
A6     | Yes    low      usage 17 W  0.0 W               Searching   0
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display poe power-usage

Comware	Related ProVision
display poe power-usage	show power-over-ethernet brief

Displays the power information of the PoE power and all PSEs.

```
HP Switch# display poe power-usage
PoE Current Power                 : 0 W
PoE Max Power                     : 37 W
PoE Max Guaranteed Power          : 0 W
PoE Remaining Allocated Power     : 0 W
PoE Remaining Guaranteed Power    : 0 W
PoE Total Powered Port Number     : 0 W
Detailed power usage of PSE(s):
PSE ID  Max     Current  Peak     Average  Remaining     Powered
        (W)     (W)      (W)      (W)      Guaranteed(W) PortNum
7       37       0        0       0         37      0
10      37       0        0       0         37      0
```

Example of Related ProVision Software Command Output.

```
HP Switch# show power-over-ethernet brief
Status and Counters - Port Power Status
System Power Status : No redundancy
PoE Power Status : No redundancy
Available: 300 W Used: 0 W Remaining: 300 W
Module A Power
Available: 300 W Used: 5 W Remaining: 295 W
PoE    | Power  Power    Alloc Alloc Actual Configured  Detection   Power
Port   | Enable Priority By    Power Power  Type        Status      Class
------ + ------ -------- ----- ----- ------ ----------- ----------- -----
A1     | Yes    low      usage 17 W  5.0 W  Phone1      Delivering  1
A2     | Yes    low      usage 17 W  0.0 W               Searching   0
A3     | Yes    low      usage 17 W  0.0 W               Searching   0
A4     | Yes    low      usage 17 W  0.0 W               Searching   0
A5     | Yes    low      usage 17 W  0.0 W               Searching   0
A6     | Yes    low      usage 17 W  0.0 W               Searching   0
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display poe-power alarm

Comware	Related ProVision
display poe-power alarm	show system power-supply

Displays detailed alarm information about the PoE PSUs.

```
HP Switch# display poe-power alarm
  PSU alarm detail, PSU number : 2
  PSU 1 alarm : POWERED
  PSU 2 alarm : POWERED
```

Example of Related ProVision Software Command Output.

```
HP Switch# show system power-supply
Power Supply Status:
PS# | State       | AC/DC + V | Wattage
----+-------------+-----------------+---------
 1  | Powered     | AC 120VDL | 875
 2  | Not Present | -- ----   | 0

1 / 2 supply bays delivering power.
Total power: 875 W
```

Minimum Software Version: 15.10.

display poe-power switch state

Comware	Related ProVision
display poe-power switch state	No equivalent ProVision software command

Displays the number and current state of the AC power distribution switches of the PSUs.

```
HP Switch# display poe-power switch state
  Switch Number               : 3
  Switch 1 State              : AC Switch Off
  Switch 2 State              : AC Switch High Voltage
  Switch 3 State              : AC Switch Off
```

Minimum Software Version: 15.10.

display port trunk

Comware	Related ProVision
display port trunk	No equivalent ProVision software command

Displays information about the hybrid or trunk ports on the switch, including port names, default VLAN IDs (untagged vlan), and allowed VLAN IDs (tagged vlan).

```
HP Switch# display port trunk
Interface             PVID  VLAN passing
A1                     1     1-2, 5-10
A2                    10       1, 5
```

Minimum Software Version: 15.10.

display protocol-vlan

Comware	Related ProVision
display protocol-vlan	No equivalent ProVision software command

Displays the protocols and protocol indexes configured on the specified VLANs.

```
HP Switch# display protocol-vlan
 VLAN ID:10
    Protocol Index   Protocol Type
============================================
         1           IPv4
         2           IPX
         3           ARP
```

Minimum Software Version: 15.10.

display protocol-vlan interface

Comware	Related ProVision
display protocol-vlan interface	No equivalent ProVision software command

Displays information about protocol-based VLANs on all ports.

```
HP Switch# display protocol-vlan interface all
 Interface: A1
   VLAN ID   Protocol Index    Protocol Type
=================================================
       2                 2             IPX
Interface: F24
  VLAN ID   Protocol Index     Protocol Type
=================================================
      4                 5             Appletalk
      4                 1             IPv4
      4                 6             SNA
```

Minimum Software Version: 15.10.

display proxy-arp

Comware	Related ProVision
display proxy-arp	show ip

Displays the proxy ARP status. If an interface is specified, proxy ARP status of the specified interface is displayed; if no interface is specified, proxy ARP status of all interfaces is displayed.

```
HP Switch# display proxy-arp

VLAN30
 Proxy ARP status: disabled
VLAN33
 Proxy ARP status: disabled
```

Operating Notes

For more information, see the "IP Routing Features" chapter in the latest *Multicast and Routing Guide* for your switch.

Minimum Software Version: 15.11.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show ip
 Internet (IP) Service
  IP Routing : Disabled
  Default TTL     : 64
  Arp Age         : 20
  Domain Suffix   :
  DNS server      :
  VLAN                | IP Config  IP Address      Subnet Mask     Proxy ARP
  ------------------- + ---------- --------------- --------------- ---------
  DEFAULT_VLAN        | DHCP/Bootp 15.255.157.54   255.255.248.0   Yes Yes
  VLAN2100            | Disabled
```

display public-key local rsa public

Comware	Related ProVision
display public-key local rsa public	show crypto host-public-key show ip host-public-key

Displays public key information of the local key pairs. This command is available only in manager mode.

```
HP Switch# display public-key local rsa public
=========================================================
Time of Key pair created: 16:53:41 2012/05/08
Key name: HOST_KEY
Key type: RSA Encryption Key
=========================================================
Key code:
30819F300D06092A864886F70D010101050003818D0030818902818100C37
1A8F1C7BAC3B7BD9003
B9B0F8F2D77980D160B998227F75F395CAD5663EEF16F9DC71CBD22149439
F2BAC388B0F19714146
3129E6A5B83692D914A7DA8F34F0B8CB2C71C9DD7301D7231993AD3576507
31D4DC40B1DE825CB5B
6FE8ED963AD7DFCF9AEF4A5E76DDBBA1ADD8AB533A4335963CE88825F7FFB
1CB1F6DA5505D020301
0001

=========================================================
Time of Key pair created: n/a
Key name: SERVER_KEY
Key type: RSA Encryption Key
=========================================================
Key code:
n/a
```

Example of Related ProVision Software Command Output.

```
HP Switch# show crypto host-public-key
SSH host public key:
ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQDNwBMXZ9vYG+YxtV+KQeQQ+R8RKx47l
xs14jPImBoV
qUmK1iyK3WGhv0Fsks9ZtATjidybwPjmfd2Lup1INUjemquL2C0YRXo4MULfr
qioWTco4mlFliftypj5
gLvYeYFT/
9CpoxMF4YrTUyjc90UfIf3et3fahaZ4KgLQjnXV1b8AWWsDZRv7niq8A1emqg
ts3HuAk59L
vFYsMkvLV2a7qoks1auqW8otRHgv/
QsWtxfuoYUvVnXDiZFKeent34+sQnIvy1wJAmukCmM3zp434eTe
h87/2Oer612mlAwRq5qPFtTAZlsf8LGipjKftW6dq8uq9tYtTtQWO09Mi65L
```

Operating Notes

For more information, refer to the latest *Access Security Guide* for your switch.

Minimum Software Version: 15.10.

display rip interface

Comware	Related ProVision
display rip interface	No equivalent ProVision software command

Displays RIP interface information of the RIP process. If no interface is specified, information about all RIP interfaces of the RIP process is displayed.

```
HP Switch# display rip 1 interface

 Interface-name: Vlan-interface2
    Address/Mask:2.2.2.2/24          Version:RIPv2
    MetricIn:1                       MetricIn route policy:n/a
    MetricOut:0                     MetricOut route policy:n/a
    Split-horizon/Poison-reverse:on/on  Input/Output:on/on
    Default route:on
    Current packets number/Maximum packets number:n/a

 Interface-name: Vlan-interface3
    Address/Mask:3.3.3.3/8           Version:RIPv1
    MetricIn:1                       MetricIn route policy:n/a
    MetricOut:0                     MetricOut route policy:n/a
    Split-horizon/Poison-reverse:on/on  Input/Output:on/on
    Default route:on
    Current packets number/Maximum packets number:n/a

 Interface-name: Vlan-interface4
    Address/Mask:192.168.4.55/16     Version:RIPv1 or RIPv2
    MetricIn:1                       MetricIn route policy:n/a
    MetricOut:0                     MetricOut route policy:n/a
    Split-horizon/Poison-reverse:on/off  Input/Output:on/on
    Default route:on
    Current packets number/Maximum packets number:n/a

HP Switch# display rip 1 interface vlan-interface 2

 Interface-name: Vlan-interface2
    Address/Mask:2.2.2.2/24          Version:RIPv2
    MetricIn:1                       MetricIn route policy:n/a
    MetricOut:0                     MetricOut route policy:n/a
    Split-horizon/Poison-reverse:on/on  Input/Output:on/on
    Default route:on
    Current packets number/Maximum packets number:n/a
```

Minimum Software Version: 15.10.

display rmon statistics

Comware	Related ProVision
display rmon statistics	show rmon statistics

Displays rmon statistics for the remote monitoring statistics information.

```
HP Switch# display rmon statistics A1
EtherStatsEntry 1 owned by monitor: is 1
   Interface:A1
   etherStatsOctets          : 3724     , etherStatsPkts             : 24
   etherStatsBroadcastPkts   : 4        , etherStatsMulticastPkts    : 15
   etherStatsUndersizePkts   : 0        , etherStatsOversizePkts     : 0
   etherStatsFragments       : 0        , etherStatsJabbers          : 0
   etherStatsCRCAlignErrors  : 0        , etherStatsCollisions       : 0
   etherStatsDropEvents(insufficient resources)    : 0
   Packets received according to length:
   64       : 12        , 65-127    : 0         ,  128-255   : 8
   256-511 : 4          , 512-1023  : 0         ,  1024-1518 : 0
```

Operating Notes

For more information, refer to the latest *Command Line Interface Reference Guide* for your switch.

Minimum Software Version: 15.10.

display saved-configuration by-linenum

Comware	Related ProVision
display saved-configuration by-linenum	show config

Displays the saved configuration of the switch with the line number. This command adds the line number to the output of **display saved-configuration**. This command is available only in manager mode.

```
HP Switch# display saved-configuration by-linenum
; J8692A Configuration Editor; Created on release #K.15.09.0000x
; Ver #03:01.1f.ef:f2
    1: hostname "HP-E3500yl-24G"
    2: module 1 type J86xxA
    3: snmp-server community "public" Unrestricted
    4: vlan 1
    5:  name "DEFAULT_VLAN"
    6:  untagged 1-24
    7:  ip address dhcp-bootp
    8:  exit
```

Example of Related ProVision Software Command Output.

```
HP Switch# show config
Startup configuration:
; J8697A Configuration Editor; Created on release #K.14.01
hostname "HP Switch"
module 1 type J8705A
snmp-server community "public" Unrestricted
vlan 1
name "DEFAULT_VLAN"
untagged A1-A24
ip address dhcp-bootp
exit
interface A1
rate-limit all out kbps 200
exit
interface A2
rate-limit all out kbps 200
exit
interface A3
rate-limit all out kbps 200
exit
interface A4
rate-limit all out kbps 200
exit
interface A5
rate-limit all in percent 200
exit
interface A6
rate-limit icmp percent 60
rate-limit mcast in percent 60
exit
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display schedule reboot

Comware	Related ProVision
display schedule reboot	show reload < after | at >

Displays the user-configured switch reboot (reload) time. For example, if the current date and time is March 21, 2012 at 1:05 PM (13:05), and the switch is configured to reboot (reload) at 5:00 PM (17:00) on the same date, then you would see the following output when executing this command:

```
HP Switch(config)# display schedule reboot
System will reboot at 17:00 03/21/2012 (in 3 hours and 55
minutes).
```

Operating Notes

To configure a reboot time on the switch, use the following command:

```
[no] reload [ after | at ]
```

For more on using the reload command, refer to the "Switch Memory and Configuration" chapter in the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

```
HP Switch(config)# show reload at

    Reload scheduled for 17:00:52 02/21/2012
              (in 0 days, 3 hours, 55 minutes)
```

display snmp-agent community

Comware	Related ProVision
display snmp-agent community	show snmpv3 community

Displays community information for SNMPv1 or SNMPv2. This command is available only in manager mode.

```
HP Switch# display snmp-agent community
   Community name: public
   Group name: n/a
   Storage-type: volatile
```

Example of Related ProVision Software Command Output.

```
HP Switch# show snmpv3 community

snmpCommunityTable [rfc2576]

Index Name Community Name  Security Name
---------- --------------- ------------------------
1          public          CommunityManagerReadWrite
2          Operator        CommunityOperatorReadOnly
3          Manager         CommunityManagerReadWrite
30         Operator        CommunityManagerReadWrite
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display snmp-agent group

Comware	Related ProVision
display snmp-agent group	show snmpv3 group

Displays information for the SNMPv3 agent group, including group name, security model, MIB view, and storage type. Absence of the group-name parameter indicates that information for all groups is displayed.

```
HP Switch# display snmp-agent group
  Group name: ComManagerR
    Security model: v1 noAuthnoPriv
    Readview: ManagerReadView
    Writeview: DiscoverView
    Notifyview: ManagerReadView
    Storage-type: ReadOnly
    Group name: ComManagerR
    Security model: v2 noAuthnoPriv
    Readview: ManagerReadView
    Writeview: DiscoverView
    Notifyview: ManagerReadView
    Storage-type: ReadOnly
  Group name: ManagerAuth
    Security model: v3 AuthnoPriv
    Readview: ManagerReadView
    Writeview: ManagerWriteView
    Notifyview: ManagerReadView
    Storage-type: ReadOnly
  Group name: ManagerPriv
    Security model: v3 AuthPriv
    Readview: ManagerReadView
    Writeview: ManagerWriteView
    Notifyview: ManagerReadView
    Storage-type: ReadOnly
  Group name: ComManagerRW
    Security model: v1 noAuthnoPriv
    Readview: ManagerReadView
    Writeview: ManagerWriteView
    Notifyview: ManagerReadView
    Storage-type: ReadOnly
  Group name: ComManagerRW
    Security model: v2 noAuthnoPriv
    Readview: ManagerReadView
    Writeview: ManagerWriteView
    Notifyview: ManagerReadView
    Storage-type: ReadOnly
  Group name: ComOperatorR
    Security model: v1 noAuthnoPriv
    Readview: OperatorReadView
    Writeview: DiscoverView
    Notifyview: OperatorReadView
    Storage-type: ReadOnly
  Group name: ComOperatorR
    Security model: v2 noAuthnoPriv
    Readview: OperatorReadView
    Writeview: DiscoverView
    Notifyview: OperatorReadView
    Storage-type: ReadOnly
  Group name: OperatorAuth
    Security model: v3 AuthnoPriv
    Readview: OperatorReadView
    Writeview: DiscoverView
```

```
    Notifyview: OperatorReadView
    Storage-type: ReadOnly
  Group name: ComOperatorRW
    Security model: v1 noAuthnoPriv
    Readview: OperatorReadView
    Writeview: OperatorReadView
    Notifyview: OperatorReadView
    Storage-type: ReadOnly
  Group name: ComOperatorRW
    Security model: v2 noAuthnoPriv
    Readview: OperatorReadView
    Writeview: OperatorReadView
    Notifyview: OperatorReadView
    Storage-type: ReadOnly
  Group name: OperatorNoAuth
    Security model: v3 noAuthnoPriv
    Readview: OperatorReadView
    Writeview: DiscoverView
    Notifyview: OperatorReadView
    Storage-type: ReadOnly
```

Example of Related ProVision Software Command Output.

```
HP Switch# show snmpv3 group

Status and Counters - SNHP v3 Global Configuration Information

Security Name            Security Model Group Name
------------------------ -------------- -----------------
CommunityManagerReadOnly      ver1        ComManagerR
CommunityManagerReadWrite     ver1        ComManagerRW
CommunityOperatorReadOnly     ver1        ComOperatorRW
CommunityOperatorReadWrite    ver1        ComOperatorRW
CommunityManagerReadOnly      ver2c       ComManagerR
CommunityManagerReadWrite     ver2c       ComManagerRW
CommunityOperatorReadOnly     ver2c       ComOperatorRW
CommunityOperatorReadWrite    ver2c       ComOperatorRW
NetworkMgr                    ver3        ManagerPriv
NetworkAdmin                  ver3        OperatorNoAuth
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display snmp-agent local-engineid

Comware	Related ProVision
display snmp-agent local-engineid	show snmpv3 engineid

Displays the SNMP agent local engine ID.

```
HP Switch# display snmp-agent local-engineid
 SNMP local EngineID: 0000000b0000001871c42f00
```

Field Descriptions

SNMP local EngineID: Identifies an SNMP entity uniquely within an SNMP domain.

Operating Notes

There is no specific user configuration command for SNMP agent local engine ID.

For more on switch SNMP operation, refer to the "Configuring for Network Management Applications" chapter in the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.08.

Example of Related ProVision Software Command Output.

```
HP Switch# HP Switch# show snmpv3 engineid

 Status and Counters - SNMP v3 EngineId Information

 EngineId: 00:00:00:0b:00:00:00:18:71:c4:2f:00
```

snmp-agent local-engineid Field Mappings.

Comware	ProVision Software
SNMP local EngineID	EngineID

display snmp-agent mib-view

Comware	Related ProVision
display snmp-agent mib-view	show snmpv3 group

Displays the View name, MIB Subtree, Subtree mask, Storage-type, View Type, and View status. This command is available only in manager mode.

```
HP Switch# display snmp-agent mib-view
View name: DiscoverView
       MIB Subtree: 1.3.6.1.6.3.15.1.2.2.1.7
       Subtree mask:
       Storage-type: readOnly
       View Type: included
       View status: notInService
       Storage-type: readOnly

   View name: DiscoverView
       MIB Subtree: 1.3.6.1.6.3.15.1.2.2.1.10
       Subtree mask:
       Storage-type: readOnly
       View Type: included
       View status: notInService
```

Example of Related ProVision Software Command Output.

```
HP Switch# show snmpv3 group

Status and Counters - SNHP v3 Global Configuration Information

Security Name            Security Model Group Name
------------------------ -------------- -----------------
CommunityManagerReadOnly      ver1      ComManagerR
CommunityManagerReadWrite     ver1      ComManagerRW
CommunityOperatorReadOnly     ver1      ComOperatorRW
CommunityOperatorReadWrite    ver1      ComOperatorRW
CommunityManagerReadOnly      ver2c     ComManagerR
CommunityManagerReadWrite     ver2c     ComManagerRW
CommunityOperatorReadOnly     ver2c     ComOperatorRW
CommunityOperatorReadWrite    ver2c     ComOperatorRW
NetworkMgr                    ver3      ManagerPriv
NetworkAdmin                  ver3      OperatorNoAuth
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display snmp-agent statistics

Comware	Related ProVision
display snmp-agent statistics	No equivalent ProVision software command

Displays SNMP statistics, identifies SNMP PDUs, and provides information regarding the number of PDUs in request, reply, get, set, errors and MIB retrieval and altered state.

```
HP Switch# display snmp-agent statistics
  0 Messages delivered to the SNMP entity
  0 Messages which were for an unsupported version
  0 Messages which used a SNMP community name not known
  0 Messages which represented an illegal operation for the community
    supplied
  0 ASN.1 or BER errors in the process of decoding
  0 Messages passed from the SNMP entity
  0 SNMP PDUs which had badValue error-status
  0 SNMP PDUs which had genErr error-status
  0 SNMP PDUs which had noSuchName error-status
  0 SNMP PDUs which had tooBig error-status (Maximum packet size 1500)
  10 MIB objects retrieved successfully
  1 MIB objects altered successfully
  0 GetRequest-PDU accepted and processed
  0 GetNextRequest-PDU accepted and processed
  0 GetBulkRequest-PDU accepted and processed
  0 GetResponse-PDU accepted and processed
  0 SetRequest-PDU accepted and processed
  0 Trap PDUs accepted and processed
  0 Alternate Response Class PDUs dropped silently
  0 Forwarded Confirmed Class PDUs dropped silently
```

Minimum Software Version: 15.10.

display snmp-agent sys-info

Comware	Related ProVision
display snmp-agent sys-info	show system information

Displays current SNMP system information.

```
HP Switch# display snmp-agent sys-info
The contact person for this managed node:
          admin
   The physical location of this node:
          HP
   SNMP version running in the system:
          SNMPv1 SNMPv2c SNMPv3
```

Example of Related ProVision Software Command Output.

```
HP Switch# show system information
Status and Counters - General System Information
System Name : HP Switch
System Contact :
System Location :
MAC Age Time (sec) : 300
Time Zone : 0
Daylight Time Rule : None
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

display snmp-agent trap-list

Comware	Related ProVision
display snmp-agent trap-list	show snmp-server traps

Displays modules that can generate traps and whether or not their trap function is enabled. This command is available only in manager mode.

```
HP Switch# display snmp-agent trap-list
   snmp Authentication trap extended
   password change trap enable
   login failures trap enable
   port security trap enable
   authorization server contact trap enable
   dhcp-snooping trap enable
   dynamic arp protection trap enable
   dynamic ip lockdown trap enable
   startup config change trap disable
   running config change trap disable
   mac address table changes trap disable
  mac address count trap disable

   Enable traps: 8; Disable traps: 4
```

Example of Related ProVision Software Command Output.

```
HP Switch# show snmp-server traps

Trap Receivers

Link-Change Traps Enabled on Ports [All] : A1-A24

Traps Category              Current Status
--------------------------- ---------------
SNMP Authentication           : Extended
Password change               : Enabled
Login failures                : Enabled
Port-Security                 : Enabled
Authorization Server Contact  : Enabled
DHCP Snooping                 : Enabled
Dynamic ARP Protection        : Enabled
Dynamic IP Lockdown           : Enabled
Address           Community Events Sent Notify Type Retry Timeout
----------------  ------- ----------- ----------- ----- -------
15.255.5.225        public      All       trap       3      15
2001:0db8:0000:0001
:0000:0000:0000:0121 user_1     All       trap       3      15
Excluded MIBs
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display snmp-agent usm-user

Comware	Related ProVision
display snmp-agent usm-user	show snmpv3 user

Displays the snmp users configured in the system. This command is available only in manager mode.

```
HP Switch# display snmp-agent usm-user

   User name: user
   Group name: ComOperatorR
       Engine ID: 0000000B00000019BBBACD00
       Storage-type: nonVolatile
       UserStatus: active

   User name: initial
   Group name: ManagerPriv
       Engine ID: 0000000B00000019BBBACD00
       Storage-type: nonVolatile
       UserStatus: active
```

Example of Related ProVision Software Command Output.

```
HP Switch# show snmpv3 user
Status and Counters - SNMP v3 Global Configuration Information
User Name    Auth. Protocol      Privacy Protocol
------------ --------------      ----------------
initial         MD5                 CFB AES-128
NetworkAdmin    MD5                 CBC-DES
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display ssh server session

Comware	Related ProVision
display ssh server session	show ip ssh

Displays SSH server session information. This command is available only in manager mode.

```
HP Switch# display ssh server session

Conn    Ver    Encry     State          Retry     SerType   Username
A1      2.0    AES       Established    n/a       Stelnet   manager
```

Example of Related ProVision Software Command Output.

```
HP Switch# show ip ssh
SSH Enabled     : Yes      Secure Copy Enabled : No
TCP Port Number : 22             Timeout (sec)  : 120
Host Key Type   : RSA            Host Key Size  : 2048

Ciphers : aes128-cbc,3des-cbc,aes192-cbc,aes256-cbc,
rijndael-cbc@lysator.liu.se,aes128-ctr,aes192-ctr,aes256-ctr

MACs : hmac-md5,hmac-sha1,hmac-sha1-96,hmac-md5-96

Ses  Type    | Source IP        Port
--- -------- + -------------- -------
1   console |
2    telnet |
3       ssh | 15.30.252.195    1531
4  inactive |
5  inactive |
6  inactive |
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

display ssh server-info

Comware	Related ProVision
display ssh server-info	No equivalent ProVision software command

Displays mappings between SSH servers and their host public keys saved on the client.

```
HP Switch# display ssh server-info
Server Name(IP)       Server public key name
----------------      ----------------------
120.85.212.127                 n/a
```

Minimum Software Version: 15.10.

display ssl client-policy

Comware	Related ProVision
display ssl client-policy	show ip ssh

Displays information about all SSL client policies. This command is available only in manager mode.

```
HP Switch# display ssl client-policy
SSL Client Policy: n/a
  SSL Version: TLS 1.0
  PKI Domain: n/a
  Prefer Ciphersuite:
    aes256-ctr
    aes256-cbc
    rijndael-cbc@lysator.liu.se
    aes192-ctr
    aes192-cbc
    aes128-ctr
    aes128-cbc
    3des-cbc
    hmac-sha1-96
    hmac-md5
    hmac-sha1
    hmac-md5-96
    aes192-ctr
    aes192-cbc
    aes128-ctr
    aes128-cbc
    3des-cbc
  Server-verify: n/a
Total 1 SSL client policy(s).
```

Example of Related ProVision Software Command Output.

```
HP Switch# show ip ssh
SSH Enabled     : Yes       Secure Copy Enabled : No
TCP Port Number : 22              Timeout (sec)   : 120
Host Key Type   : RSA             Host Key Size   : 2048

Ciphers : aes128-cbc,3des-cbc,aes192-cbc,aes256-cbc,
rijndael-cbc@lysator.liu.se,aes128-ctr,aes192-ctr,aes256-ctr

MACs : hmac-md5,hmac-sha1,hmac-sha1-96,hmac-md5-96

Ses  Type    | Source IP     Port
--- -------- + -------------- -------
1   console |
2    telnet |
3       ssh | 15.30.252.195    1531
4  inactive |
5  inactive |
6  inactive |
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

display ssl server-policy

Comware	Related ProVision
display ssl server-policy	show ip ssh

Displays information about all SSL client policies. This command is available only in manager mode.

```
HP Switch# display ssl server-policy
SSL Server Policy: n/a
  PKI Domain: n/a
  Ciphersuite:
    aes256-ctr
    aes256-cbc
    rijndael-cbc@lysator.liu.se
    aes192-ctr
    aes192-cbc
    aes128-ctr
    aes128-cbc
    3des-cbc
    hmac-sha1-96
    hmac-md5
    hmac-sha1
    hmac-md5-96
    aes192-ctr
    aes192-cbc
    aes128-ctr
    aes128-cbc
    3des-cbc
  Handshake Timeout: 120
  Close-mode: n/a
  Session Timeout: n/a
  Session Cachesize: n/a
  Client-verify: n/a
  Client-verify weaken: n/a

Total 1 SSL server policy(s).
```

Example of Related ProVision Software Command Output.

```
HP Switch# show ip ssh
SSH Enabled     : Yes          Secure Copy Enabled : No
TCP Port Number : 22                 Timeout (sec)   : 120
Host Key Type   : RSA                Host Key Size   : 2048

Ciphers : aes128-cbc,3des-cbc,aes192-cbc,aes256-cbc,
rijndael-cbc@lysator.liu.se,aes128-ctr,aes192-ctr,aes256-ctr

MACs : hmac-md5,hmac-sha1,hmac-sha1-96,hmac-md5-96

Ses  Type    | Source IP    Port
--- -------- + -------------- -------
1   console |
2    telnet |
3       ssh | 15.30.252.195    1531
4  inactive |
5  inactive |
6  inactive |
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

display startup

Comware	Related ProVision
display startup	No equivalent ProVision software command

Displays the configuration file used at the current system startup and the configuration file(s) to be used at the next system startup.

```
HP Switch# display startup
Current startup saved-configuration file: flash:/svt-1.cfg
Next startup saved-configuration file for primary image: flash:/
svt-1.cfg
Next startup saved-configuration file for secondary image:
flash:/svt-2.cfg
```

Minimum Software Version: 15.10.

display stp history
display stp history slot <slot-number>
display stp instance <instance-id>
history slot <slot-no>
display stp instance <instance-id>
history

Comware	Related ProVision
display stp history	No equivalent ProVision software command

display stp history displays the historical port role calculation information of all MSTIs.

display stp history slot slot-number displays the statistics of the port's history information of all the MSTIs of a given slot when stp protocol is enabled.

display stp instance instance-id history displays the historical port role information of the specified MSTI when stp protocol is enabled.

display stp instance instance-id history slot slot-number displays the statistics of the port's history information of the specified MSTI of a given slot when stp protocol is enabled.

```
HP Switch# display stp history
display stp history
 --------------- STP slot 1 history trace ---------------
 ------------------- Instance 0 -------------------
 Port 1
 Role change      :Disa->Desi
 Time             :2012/05/28 09:47:23
 Port priority    :32768.002347-b4cb80 0 32768.002347-b4cb80 0
                     32768.002347-b4cb80 128.1
 ------------------- Instance 1 -------------------
 Port 1
 Role change      :Disa->Desi
 Time             :2012/05/28 09:47:23
 Port priority  :32768.002347-b4cb80 0 32768.002347-b4cb80 48.1

HP Switch# display stp history slot A
 --------------- STP slot 1 history trace ---------------
 ------------------- Instance 0 -------------------
 Port 1
   Role change        :Disa->Desi
   Time               :2012/05/28 09:47:23
   Port priority    :32768.002347-b4cb80 0 32768.002347-b4cb80 0
                       32768.002347-b4cb80 128.1
 ------------------- Instance 1 -------------------
 Port 1
   Role change     :Disa->Desi
   Time            :2012/05/28 09:47:23
   Port priority   :32768.002347-b4cb80 0 32768.002347-b4cb80
                    48.1

HP Switch# display stp instance 0 history
 --------------- STP slot 1 history trace ---------------
 ------------------- Instance 0 -------------------
 Port 1
 Role change        :Disa->Desi
 Time               :2012/05/28 09:47:23
 Port priority    :32768.002347-b4cb80 0 32768.002347-b4cb80 0
                     32768.002347-b4cb80 128.1
```

Minimum Software Version: 15.10.

display system-failure

Comware	Related ProVision
display system-failure	show boot-history

```
HP Switch# display system-failure
 System failure handling method: reboot
```

Example of Related ProVision Software Command Output.

```
HP Switch# show boot-history
Mgmt Module 1 -- Saved Crash Information (most recent first):
============================================================
Mgmt Module 1 in Active Mode went down: 11/07/09 14:48:36
Operator warm reload from CONSOLE session.
Mgmt Module 1 in Active Mode went down: 11/07/09 11:43:10
Operator cold reboot from CONSOLE session.

Mgmt Module 2 -- Saved Crash Information (most recent first):
============================================================
No Saved Crash Information
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

display this

Comware	Related ProVision
display this	No equivalent ProVision software command

Displays valid configuration information under the current view. Use this command to check whether your configuration has taken effect. Valid configuration that is the same as the default is not displayed. Invalid configuration is not displayed. Execution of this command in any user interface view displays the valid configuration in all the user interfaces. Execution of this command in any VLAN view displays the configurations of all the created VLANs.

```
HP Switch# display this
 vlan 1
  name "DEFAULT_VLAN"
  no untagged 1-2,48
  untagged 3-47
  ip address dhcp-bootp
  exit
 vlan 10
  name "VLAN10"
  untagged 1,48
  ip address 10.10.10.3 255.255.255.0
  ip igmp
  exit
 vlan 30
  name "VLAN30"
  untagged 2
  ip address 30.30.30.2 255.255.255.0
  ip igmp
  ip rip 30.30.30.2
  ip pim-sparse
   ip-addr any
   exit
  exit
```

Minimum Software Version: 15.10.

display user-bind

Comware	Related ProVision
display user-bind	show ip source-lockdown bindings

Displays user bind address.

```
HP Switch# display user-bind

Total entries found: 1
   MAC           IP          Vlan Port Status
0030c1-7f49c0    120.93.49.7        2       1
```

Example of Related ProVision Software Command Output.

```
HP Switch# show ip source-lockdown bindings
Dynamic IP Lockdown (DIPLD) Bindings
Mac Address IP Address VLAN Port Not in HW
----------- ---------- ----- ----- ---------
001122-334455 10.10.10.1 1111 X11
005544-332211 10.10.10.2 2222 Trk11 YES
. . . . . .
```

Operating Notes

For more information, refer to the latest *Access Security Guide* for your switch.

Minimum Software Version: 15.10.

display vlan

Comware	Related ProVision
display vlan	No equivalent ProVision software command

Displays vlan-id for the existing vlan only. If it is consecutive it displays as a range.

```
HP Switch# display vlan
Total 2 VLAN exist(s).
The following VLANs exist:
  1(default), 7,

HP Switch# display vlan static
Total 2 VLAN exist(s).
The following VLANs exist:
  1(default), 7,

HP Switch# display vlan 7
VLAN ID: 7
VLAN Type: static
Route Interface: n/a
Description: VLAN 0007
Name: VLAN7
Tagged  Ports:
   3              5              7
   10             16             19
Untagged Ports:
  8               11             18
  21              22
HP Switch# display vlan 8-10
VLAN(s) do(es) not exist.

HP Switch# display vlan dynamic
No dynamic VLAN exists!

HP Switch# display vlan dynamic
Total 2 dynamic VLAN exist(s).
The following dynamic VLANs exist:
  2, 4,
```

Minimum Software Version: 15.10.

3 Fundamental Commands

backup startup-configuration

Comware	Related ProVision
backup startup-configuration	copy startup-config tftp <ip-address> <file name>

Used to backup the startup configuration file (used at the next system startup) to a specified TFTP server and to a specified filename.

```
HP Switch# backup startup-configuration to 120.93.49.9 test_new
TFTP download in progress.
```

Related ProVision Software Command.

To upload the current startup configuration to a file named sw8200 in the config directory on drive “d” in a TFTP server with an IP addres of 10.28.227.105, use the following command:

```
HP Switch# copy startup-config tftp 10.28.227.105
d:\configs\sw8200
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

clock datetime

Comware	Related ProVision
clock datetime	clock set <Time[date] | Date[Time]>

Used to set the current time and date of the device. You can leave the ss field blank when you specify the time parameters. This command accepts any input for the YYYY value. It displays the current time once the value is set. It displays a warning string if it is executed in Manager View. It is not available in Operator View, it is only available in Configure context.

```
HP Switch# clock datetime 8:8:8 7/7/7
```

Related ProVision Software Command.

```
HP Switch# clock set
```

Operating Notes

For more information, refer to the latest *Command Line Interface Reference Guide* for your switch.

Minimum Software Version: 15.10.

clock summer-time one-off

Comware	Related ProVision
clock summer-time	clock summer-time

This command does not differ from the related ProVision software command.

```
HP Switch# clock summer-time
```

Operating Notes

For more information, refer to the latest *Command Line Interface Reference Guide* for your switch.

Minimum Software Version: 15.10.

clock summer-time repeating

Comware	Related ProVision
clock summer-time repeating	clock summer-time

This command does not differ from the related ProVision software command.

```
HP Switch# clock summer-time
```

Operating Notes

For more information, refer to the latest *Command Line Interface Reference Guide* for your switch.

Minimum Software Version: 15.10.

clock timezone

Comware	Related ProVision
clock timezone	clock timezone

This command does not differ from the related ProVision software command.

```
HP Switch# clock timezone
```

Operating Notes

For more information, refer to the latest *Command Line Interface Reference Guide* for your switch.

Minimum Software Version: 15.10.

command accounting

Comware	Related ProVision
command accounting	aaa accounting commands < stop-only | interim-update > radius

Used to enable command accounting.

```
HP Switch# command accounting
```

Related ProVision Software Command.

```
HP Switch# aaa accounting commands
```

Operating Notes

For more information, refer to the latest *Access Security Guide* for your switch.

Minimum Software Version: 15.10.

command authorization

Comware	Related ProVision
command authorization	aaa authorization commands radius

Used to enable command authorization.

```
HP Switch# command authorization
```

Related ProVision Software Command.

```
HP Switch# aaa authorization commands radius
```

Operating Notes

For more information, refer to the latest *Access Security Guide* for your switch.

Minimum Software Version: 15.10.

command-alias enable

Comware	Related ProVision
command-alias enable	No equivalent ProVision software command

Used to enable the command keyword alias function. By default, the command keyword alias function is enabled.

```
HP Switch# command-alias enable
```

Minimum Software Version: 15.10.

command-alias mapping

Comware	Related ProVision
command-alias mapping	No equivalent ProVision software command

Used to configure a command keyword alias. By default, a command keyword has no alias. By default, the command is enabled and not configurable. It is available in Manger view. It accepts "any string" (irrespective of whether it's a valid command token or not). Cmdkey value range is 1-40 and AliasKey value range is 1-32.

```
HP Switch# command-alias mapping
```

Minimum Software Version: 15.10.

copy

Comware	Related ProVision
copy	copy config SOURCE_CONFIG_FILE_ON_SWITCH config DESTINATION_CONFIG_FILE_ON_SWITCH

This command does not differ from the related ProVision software command.

```
HP Switch# copy config SOURCE_CONFIG_FILE_ON_SWITCH config
DESTINATION_CONFIG_FILE_ON_SWITCH
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

delete <startup-config>

Comware	Related ProVision
delete <startup-config>	erase config <file name>

Used to delete config file from the system directory. This command can be executed from any context. The keyword 'delete' tab help text lists the config files which can be deleted. The command allows only deletion of config files and not other files. It does not support wildcards (like *.txt) and file names with URL's. Deleted files cannot be restored.

```
HP Switch# delete config1
```

Related ProVision Software Command.

```
HP Switch# erase config
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

flow-control

Comware	Related ProVision
flow-control	flow-control

This command does not differ from the related ProVision software command.

```
HP Switch# flow-control
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

idle-timeout

Comware	Related ProVision
idle-timeout	console inactivity-timer

Used to set the idle-timeout timer. When it expires, user sessions are terminated. By default idle-timeout is disabled. The command supports only minutes. And these minutes are the predefined set 0,1,5,10,15,20,30,60,120. The command is available in configure context. The default inactivity timer is 0 and means it is disabled.

```
HP Switch# idle-timeout 120
```

Related ProVision Software Command.

```
HP Switch# console inactivity-timer
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

quit

Comware	Related ProVision
quit	exit

Used to return to a lower-level view. If the current view is operator mode, this command terminates the current connection and quits the system.

```
HP Switch# quit
Do you want to log out [y/n]?
```

Related ProVision Software Command.

```
HP Switch# exit
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

reboot

Comware	Related ProVision
reboot slot <slot num>	boot

Used to reboot a module. If the slot keyword is not provided, the whole system reboots.

```
HP Switch# reboot slot A
```

Related ProVision Software Command.

```
HP Switch# boot
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

reset saved-configuration

Comware	Related ProVision
reset saved-configuration	erase startup

Used to delete the startup configuration file saved on the storage medium of the switch. The command can be executed in manager mode.

Related ProVision Software Command.

```
HP Switch# erase startup
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

restore startup-configuration

Comware	Related ProVision
restore startup-configuration	copy tftp startup-config

Used to download a configuration file from the specified TFTP server to the switch and specify the configuration file as the startup configuration file to be used at the next startup of the switch. The command is supported in manager mode. When you download a config file from a remote server which has same name as current active startup config file name (but both are not identical) then after downloading the file the switch reboots itself. In this case, the command triggers the download of the config file from the remote server but the next startup-configuration file is not configured.

A maximum of 3 config files can be stored on the switch. There are no restrictions on the file name.

```
HP Switch# restore startup-configuration from 120.93.49.9
restore_test

This will change the default configuration file to be used
whenever the switch is rebooted. Continue [y/n]?
```

Related ProVision Software Command.

```
HP Switch# copy tftp startup-config
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

return

Comware	Related ProVision
return	end

Used to return to user view from current view (non user view), as with the hot key ctrl+Z.

```
HP Switch# return
```

Related ProVision Software Command.

```
HP Switch# end
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

save

Comware	Related ProVision
save	write memory

Used to save the current configuration to the current startup config file. By default, the current configuration gets saved in the current start-up configuration file.

Related ProVision Software Command.

```
HP Switch# write memory
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

schedule reboot at

Comware	Related ProVision
schedule reboot at	reload at

Used to enable the scheduled reboot function of the whole system (including all cards) at a specific time and date. The command can be executed in manager mode. The supported date form is mm/dd[/[yy]yy]. The command cannot be executed if the date is not specified and specified reboot time is earlier than the current time.

```
HP Switch# schedule reboot at 14:00 04/13/2012
    Reload scheduled at 14:00:10 04/13/2012
                  (in 0 days, 0 hours, 49 minutes)
System will be rebooted at the scheduled time from secondary
image.
Do you want to continue [y/n]?
```

Related ProVision Software Command.

```
HP Switch# reload at 12:05 01/01/2012
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

schedule reboot delay

Comware	Related ProVision
schedule reboot delay	reload after

Used to enable the scheduled reboot function of the whole system (including all cards) and to set a reboot waiting time. The command can be executed in manager mode and accepts input in [[dd:]hh:]mm format.

```
HP Switch# schedule reboot delay 01:20
    Reload scheduled in 0 days, 1 hours, 20 minutes
System will be rebooted at the scheduled time from secondary
image.
Do you want to continue [y/n]?
```

Related ProVision Software Command.

```
HP Switch# reload after 04:14:00

Reload scheduled in 4 days, 14 hours, 0 minutes

This command will cause a switchover at the scheduled time to
the other management module which may not be running the same
software image and configurations. Do you want to continue [y/n]?
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

screen-length

Comware	Related ProVision
screen-length	terminal length

Used to set the number of lines on the next screen. This command is executed in manager mode. The range for the number of lines supported is 2-1000.

```
HP Switch# screen-length
```

Related ProVision Software Command.

```
HP Switch# terminal length
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

set authentication password

Comware	Related ProVision
set authentication password	set authentication password

This command does not differ from the related ProVision software command.

```
HP Switch# set authentication password
```

Operating Notes

For more information, refer to the latest *Command Line Interface Reference Guide* for your switch.

Minimum Software Version: 15.10.

speed

Comware	Related ProVision
speed (user interface view)	console baud-rate

Used to set the transmission rate on the user interface. This command can be executed from configure mode. There is no default value. The lowest supported value is 1200 bps. The configuration has to be saved and the switch has to be rebooted to make the configuration effective.

```
HP Switch# speed 9600

This command will take effect after saving the configuration
and rebooting the system.
```

Related ProVision Software Command.

```
HP Switch# console baud-rate 19200

This command will take effect after saving the configuration
and rebooting the system.
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

startup saved-configuration

Comware	Related ProVision
startup saved-configuration	startup-default config <config file name>

Used to specify the configuration file to be used at the next system startup. This command can be executed in manager mode.

```
HP Switch# startup saved-configuration test

This will change the default configuration file to be used
whenever the switch is rebooted. Continue [y/n]?
```

Related ProVision Software Command.

```
HP Switch# startup-default secondary config config2
HP Switch# show config files
Configuration files:
id | act pri sec | name
---+-------------+----------------------------------------
1  |  *   *      | config1
2  |           * | config2
3  |             |
```

Operating Notes

For more information, refer to the latest *Basic Configuration Guide* for your switch.

Minimum Software Version: 15.10.

sysname

Comware	Related ProVision
sysname <name-string>	hostname <name-string>

Used to set the name of the device. Changing device name affects the prompt of the CLI. For example, if the device name is Sysname, the prompt of the user view is <Sysname>. Special characters are not allowed.

```
HP Switch# sysname
```

Related ProVision Software Command.

```
HP Switch# hostname
```

Operating Notes

For more information, refer to the latest *Basic Operation Guide* for your switch.

Minimum Software Version: 15.10.

system-view

Comware	Related ProVision
system-view	configure terminal

Used to enter system view from the current user view.

```
HP Switch# system-view
HP Switch(config)#
```

Related ProVision Software Command.

```
HP Switch# configure terminal
HP Switch(config)#
```

Operating Notes

For more information, refer to the latest *Basic Configuration Guide* for your switch.

Minimum Software Version: 15.10.

telnet

Comware	Related ProVision
telnet	telnet

This command does not differ from the related ProVision software command.

```
HP Switch# telnet
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

telnet ipv6

Comware	Related ProVision
telnet ipv6	telnet

Used to telnet to a remote IPv6 host. To stop the current Telnet login, press Ctrl+K or use the quit command. This command supports both ipv6 and ipv4 formats with the given string name.

```
HP Switch# telnet ipv6 hostname
```

```
HP Switch# telnet ipv6 addr
```

Related ProVision Software Command.

```
HP Switch# telnet hostname
```

Operating Notes

For more information, refer to the latest *Basic Configuration Guide* for your switch.

Minimum Software Version: 15.10.

telnet server enable

Comware	Related ProVision
telnet server enable	telnet-server

Used to enable the Telnet server. The Telnet server is enabled by default. This command is executed in manager mode.

```
HP Switch# telnet server enable
```

Related ProVision Software Command.

```
HP Switch# telnet-server
```

Operating Notes

For more information, refer to the latest *Basic Configuration Guide* for your switch.

Minimum Software Version: 15.10.

terminal type

Comware	Related ProVision
terminal type	console terminal

Used to configure the type of terminal display under the current user interface. By default, the terminal display type is VT100. This command can be executed in manager mode. The configuration becomes effective after it is saved and the system is rebooted.

```
HP Switch# terminal type ansi

This command will take effect after saving the configuration
and rebooting the system.
```

Related ProVision Software Command.

```
HP Switch# console terminal vt100

This command will take effect after saving the configuration
and rebooting the system.
```

Operating Notes

For more information, refer to the latest *Basic Configuration Guide* for your switch.

Minimum Software Version: 15.10.

tftp

Comware	Related ProVision
tftp	copy

Used to download a specified file from the TFTP server to the local device or upload a specified local file to the TFTP server in an IPv4 network. This command can be executed only from config context. Downloading a file from the tftp server to any user given file or uploading any file to the tftp server is supported only for specific type of files. Comware command allows . In ProVision this functionality is supported only for specific type of files. The destination file parameter is mandatory.

```
HP Switch# tftp 120.93.49.9 put config tftp_test
TFTP download in progress.
HP Switch# tftp 120.93.49.9 get config2 tftp_test
HP Switch# tftp 120.93.49.9 sget test tftp_test
Enter manager@120.93.49.9's password:
Attempting username/password authentication...
00000K

File transfer terminated by user request.
```

Related ProVision Software Command.

```
HP Switch# copy tftp flash 10.29.227.13 flash
Device will be rebooted, do you want to continue [y/n]?
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

tftp ipv6

Comware	Related ProVision
tftp ipv6	copy

Used to download a specified file from a TFTP server or upload a specified local file to a TFTP server in an IPv6 network. This command can be executed only from config context. Downloading a file from the tftp server to any user given file or uploading any file to the tftp server is supported only for specific type of files. Comware command allows . In ProVision this functionality is supported only for specific type of files. The destination file parameter is mandatory.

```
HP Switch# tftp 120.93.49.9 put config tftp_test
TFTP download in progress.
HP Switch# tftp 120.93.49.9 get config2 tftp_test
HP Switch# tftp 120.93.49.9 sget test tftp_test
Enter manager@120.93.49.9's password:
Attempting username/password authentication...
00000K

File transfer terminated by user request.
```

Related ProVision Software Command.

```
HP Switch# copy tftp flash 10.29.227.13 flash
Device will be rebooted, do you want to continue [y/n]?
```

Operating Notes

For more information, refer to the latest *Management and Configuration Guide* for your switch.

Minimum Software Version: 15.10.

undo

Comware	Related ProVision
undo	no vlan vlan-id

Used to reset the configuration of the system.

```
HP Switch# undo vlan vlan-id
```

Related ProVision Software Command.

```
HP Switch# no vlan vlan-id
```

Operating Notes

For more information, refer to the latest *Command Line Interface Reference Guide* for your switch.

Minimum Software Version: 15.10.

4 Comware Configuration Help Commands

Table of Comware Commands and Associated ProVision Commands

Comware Configuration Command	ProVision Command	ProVision Command Location(s)
HP Switch(config)# acl	See `ip access-list`, `ipv6 access-list` or `access-list`	Access Security Guide IPv6 Configuration Guide
HP Switch(config)# acl step	Specify the index when creating the entry	Access Security Guide
HP Switch(config)# arp check	See `ip arp-mcast-replies`	Multicast and Routing Guide
HP Switch(config)# arp timer	See `ip arp-age`	Multicast and Routing Guide
HP Switch(config)# bgp	See `router bgp`	Advanced Traffic Configuration Guide
HP Switch(eth-1)# bridge-aggregation	See `trunk`	Management and Configuration Guide
HP Switch(eth-1)# broadcast-suppression	See `interface rate-limit`	Management and Configuration Guide
HP Switch(config)# classifier	See `class` or `policy`	Advanced Traffic Management Guide
HP Switch(config)# clear bgp	See `clear ip bgp`	Advanced Traffic Management Guide
HP Switch(config)# clear ospf	See `clear ip ospf-statistics`	Multicast and Routing Guide
HP Switch(config)# comware-help-display {enable | disable}	When enabled, adds all the Comware help commands that will help navigate and configure the commands on a Provision switch. This feature is disabled by default and Comware help commands are not available.	This Guide
HP Switch(eth-1)# dhcp	See `dhcp-relay` or `vlan <vid> ip helper-address`	Multicast and Routing Guide
HP Switch(config)# dhcp-snooping	In ProVision, DHCP snooping is applied per VLAN	Access Security Guide
HP Switch(config)# display device	See `show modules`	Management and Configuration Guide
HP Switch(config)# display device manuinfo	See `show modules`	Management and Configuration Guide
HP Switch(config)# display device manuinfo slot	See `show modules`	Management and Configuration Guide
HP Switch(config)# display device manuinfo slot <slot-num>	See `show modules`	Management and Configuration Guide
HP Switch(config)# display power	See `show system power-supply`	Management and Configuration Guide
HP Switch(config)# display switchover state	See `show redundancy`	Management and Configuration Guide
HP Switch(config)# dns	See `ip dns`	Management and Configuration Guide
HP Switch(eth-1)# dot1x	See `aaa port-access mac-based`	Access Security Guide

Comware Configuration Command	ProVision Command	ProVision Command Location(s)
HP Switch(eth-1)# dot1x	See `aaa port-access authenticator`	Access Security Guide
HP Switch(config)# fips	See `secure mode`	Access Security Guide
HP Switch(config)# hwtacacs	See `tacacs-server`	Access Security Guide
HP Switch(vlan-1)# igmp	See `vlan <vid> ip igmp` Comware supports L3 IGMP (snooping and routing) in interface VLAN context and L2 IGMP (snooping) in VLAN context. ProVision IGMP in VLAN context is similar to Comware's L3 IGMP.	Multicast and Routing Guide
HP Switch(config)# igmp-snooping	See vlan `<vid> ip igmp`	Multicast and Routing Guide
HP Switch(vlan-1)# igmp-snooping	See vlan `<vid> ip igmp`	Multicast and Routing Guide
HP Switch(config)# interface	ProVision uses just the port number rather than the "number, sub-number" Comware format	Management and Configuration Guide
HP Switch(config)# ip access-list logging	See `ip access-list <acl> logging`	Management and Configuration Guide
HP Switch(config)# ip policy-based-route	See `class` or `policy`	Advanced Traffic Configuration Guide
HP Switch(config)# ip redirects	See `ip icmp redirect`	Multicast and Routing Guide?
HP Switch(config)# ip unreachables	See `ip icmp unreachable`	Multicast and Routing Guide?
HP Switch(config)# ipv6 access-list logging	See `ipv6 access-list <acl> logging`	Management and Configuration Guide
HP Switch(config)# ipv6 mtu	See `ipv6 jumbo` ip or `tunnel mtu` Applies to both IPv4 and IPv6	IPv6 Configuration Guide
HP Switch(config)# link-aggregation	See `trunk`	Management and Configuration Guide
HP Switch(config)# loopback-detection	See `loop protect`	Advanced Traffic Management Guide
HP Switch(config)# mac-authentication	See `aaa port-access mac-based`	Access Security Guide
HP Switch(config)# mld	See `vlan <vid> ipv6 mld`	IPv6 Configuration Guide
HP Switch(vlan-1)# mld	See `vlan <vid> ip mld`	IPv6 Configuration Guide
HP Switch(config)# mld-snooping	See `vlan <vid> ipv6 mld`	IPv6 Configuration Guide
HP Switch(vlan-1)# mld-snooping	See `vlan <vid> ip mld`	IPv6 Configuration Guide
HP Switch(config)# multicast	See `ip multicast`	Multicast and Routing Guide
HP Switch(config)# ospf	See `router ospf` OSPF is enabled on a VLAN, not a network. In VLAN context, use `ip ospf`. Process IDs are not supported.	Multicast and Routing Guide
HP Switch(config)# ospfv3	see `router ospf3`	IPv6 Configuration Guide
HP Switch(eth-1)# packet-filter	See `ip vlan` or `ip access-group`	Access Security Guide Advanced Traffic Management Guide
HP Switch(config)# pim	See `router pim`	Multicast and Routing Guide

Comware Configuration Command	ProVision Command	ProVision Command Location(s)
HP Switch(config)# poe-profile	See `power-over-ethernet`	Management and Configuration Guide
HP Switch(config)# policy-based-route	See `class` or `policy`	Advanced Traffic Management Guide
HP Switch(eth-1)# proxy-arp	See `ip proxy-arp`	Multicast and Routing Guide
HP Switch(config)# qos apply	See `class` or `policy`	Advanced Traffic Management Guide
HP Switch(config)# qos policy	See `class` or `policy`	Advanced Traffic Management Guide
HP Switch(config)# radius server	RADIUS configuration is executed at the global level with the `radius-server` command. A global key can be specified that is used by all servers, or individual keys (shared secrets) can be specified for individual servers.	Access Security Guide
HP Switch(config)# reset	See `clear stat`	Management and Configuration Guide
HP Switch(config)# reset arp	See `clear arp` or `clear ipv6 neighbors`	Multicast and Routing Guide IPv6 Configuration Guide
HP Switch(config)# rip	See `router rip`	Multicast and Routing Guide
HP Switch(config)# route-policy	See `route-map` Provision's set action is the same as Comware's `apply` action.	Multicast and Routing Guide
HP Switch(config)# router bgp preference	See `router bgp distance`	Advanced Traffic Configuration Guide
HP Switch(config)# router ospf area	Areas are applied in VLAN context	Multicast and Routing Guide
HP Switch(config)# router ospf graceful-restart	See `router ospf nonstop`	Multicast and Routing Guide
HP Switch(config)# router ospf preference	See `router ospf distance`	Multicast and Routing Guide
HP Switch(config)# router ospf3 preference	See `router ospf3 distance`	IPv6 Configuration Guide
HP Switch(config)# router pim ipv6	See `router pim ipv6` ProVision supports MLD and IPv6 unicast routing, but IPv6 addressing is not supported by PIM-DM or PIM-SM.	Multicast and Routing Guide
HP Switch(config)# router rip preference	See `router rip distance`	Multicast and Routing Guide
HP Switch(config)# router-id	See `ip router-id`	Multicast and Routing Guide
HP Switch(eth-1)# shutdown	See `disable`	Management and Configuration Guide
HP Switch(config)# snmp-agent	See `snmp-server`	Management and Configuration Guide
HP Switch(config)# spanning-tree active	See `spanning-tree pending-apply`	Advanced Traffic Management Guide
HP Switch(config)# spanning-tree compliance	See `spanning-tree legacy-mode`	Advanced Traffic Management Guide
HP Switch(config)# spanning-tree edged-port	See `spanning-tree admin-edge`	Advanced Traffic Management Guide

Comware Configuration Command	ProVision Command	ProVision Command Location(s)
HP Switch(config)# spanning-tree mode	See `spanning-tree legacy-mode`	Advanced Traffic Management Guide
HP Switch(config)# spanning-tree region-name	See `spanning-tree config-name`	Advanced Traffic Management Guide
HP Switch(config)# spanning-tree root-protection	See `spanning-tree root-guard`	Advanced Traffic Management Guide
HP Switch(config)# spanning-tree tc-protection	See `spanning-tree tc-end-guard`	Advanced Traffic Management Guide
HP Switch(config)# stp	See `spanning-tree`	Advanced Traffic Management Guide
HP Switch(config)# system-view help	Use the command `comware-help` for more information about differences between ProVision and Comware commands and concepts. You can also use `comware-help-display` for additional comware-specific help.	This Guide
HP Switch(config)# trunk load-sharing	See *trunk load-balance*	Management and Configuration Guide
HP Switch(config)# udp-helper	See `ip udp-bcast-forward`	Multicast and Routing Guide
HP Switch(vlan-1)# udp-helper	See `ip forward-protocol udp`	Multicast and Routing Guide
HP Switch(config)# undo	Use `no`	Basic Operation Guide
HP Switch(eth-1)# vlan-interface	See `vlan`	Advanced Traffic Management Guide
HP Switch(eth-1)# voice	See `vlan <vid> voice`	Management and Configuration Guide
HP Switch(vlan-1)# voice	ProVision designates a single VLAN as the voice VLAN, whereas Comware allows voice VLAN configuration per port.	Management and Configuration Guide

Using the Comware-Help Command

Logging In and Usernames

The two default user names for a ProVision switch are operator and manager. By default ProVision switches do not have passwords assigned to those logins. To set a password on a ProVision switch, issue the command `password operator` or `password manager`.

The prompt for an operator session is always terminated by a '>':

```
HP Switch>
```

The prompt for a manager session is always terminated by a '#':

```
HP Switch#
```

To move from the operator prompt to the manager prompt, issue the `enable` command at the operator prompt.

To exit any context, issue the exit command.

To enable configuration of the switch, issue the `configure` command from the manager prompt. The prompt will be terminated with '(config)#':

```
HP Switch(config)#
```

Serial consoles by default are 9600, N, 8, 1 but Auto Baud Detect is supported on most ProVision switches. Auto Baud Detect is only enabled after the switch has completely booted. If your terminal session is not sent to 9600, N, 8, 1 no boot-up messages will be displayed.

Enabling SSH

To enable SSH connectivity to your ProVision switch, issue the `ip ssh` command. If SSH has never been enabled on the ProVision switch, you may also need to issue the `crypto key generate ssh` command before issuing the `ip ssh` command. To disable the TELNET server on the ProVision switch, issue the `no telnet-server` command.

Ports and VLANs

On ProVision, fixed-port Ethernet ports on the front of the switch are assigned a number. For example, the 10/100/1000 copper ports of an 3500-24 would be numbered 1-24. To configure properties of a port, you must enter that ports context by issuing the `interface <port>` command. For example, to change the speed of port 10 to 100/half-duplex, and then disable it, issue the following commands:

```
HP Switch> enable
HP Switch# configure
HP Switch(config)# interface 10
HP Switch(eth-10)# disable
```

On ProVision, modular Ethernet ports are addressed by their module letter and port number. For example, to enter the configuration context for Port 1 on Module C of an HP 8212, you would issue the command `interface c1`.

On most Comware switches, Ethernet ports can either be in "switched-L2" mode ("port link-mode bridge") or "routed-L3" mode ("port link-mode route"). Currently, ProVision only supports Ethernet ports in a switched-L2 mode. By default, all ports are placed untagged in VLAN 1. To assign port 2 as an untagged member of VLAN 2, a tagged member of VLAN 3, and assign an IP address of 3.3.3.3 to VLAN 3, issue the following commands:

```
HP Switch> en
HP Switch# configure
HP Switch(config)# vlan 2
HP Switch(vlan-2)# untagged 2
HP Switch(vlan-2)# vlan 3
HP Switch(vlan-3)# tagged 2
HP Switch(vlan-3)# vlan 3
HP Switch(vlan-3)# ip address 3.3.3.3/24
```

NOTE: All ports must at all times belong to a VLAN. Layer-3 configuration of physical ports is always done in the VLAN context.

The command `comware-help-display {enable|disable}` adds all the Comware help commands that will help a Comware user navigate and configure the commands on a Provision switch. This feature is disabled by default and Comware help commands will not be available. All the tab help for commands added for Comware help will start with "[comware]" prefixed to them. Executing these commands displays some brief help text that guides configuration of the feature on a Provision switch.

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