Hewlett Packard Enterprise

HPE 1950-CMW710-R3115P01 Release Notes

Contents

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This document describes the features, restrictions and guidelines, open problems, and workarounds for version 1950-CMW710-R3115P01. Before you use this version in a live network, back up the configuration and test the version to avoid software upgrade affecting your live network.

Use this document in conjunction with *HPE 1950-CMW710-R3115P01 Release Notes (Software Feature Changes)* and the documents listed in "Related documents"

Version information

Version number

HPE Comware Software, Version 7.1.045, Release 3115P01

Note: You can see the version number with the command **display version** in any view. Please see Note①.

Version history

Table 1 Version history

Version number	Last version	Release Date	Release type	Remarks
1950-CMW710-R3115P01	R3115	2016-08-16	Release version	• Fixes bugs
1950-CMW710-R3115	R3113P05	2016-07-15	Release version	• Fixes bugs
1950-CMW710-R3113P05	R3113P03	2016-06-15	Release version	• Fixes bugs
1950-CMW710-R3113P03	R3113P02	2016-05-27	Release version	• Fixes bugs
1950-CMW710-R3113P02	R3112	2016-05-06	Release version	• Fixes bugs

1950-CMW710-R3112	R3111P07	2016-03-18	Release version	• New feature
				  ○ SSH
				  ○ Configuration import and export
				• Modified feature
				  ○ Transceiver module source alarm
				• Fixes bugs

1950-CMW710-R3111P07	R3111P03	2016-02-03	Release version	• Fixes bugs

1950-CMW710-R3111P03	R3111P02	2015-12-31	Release version	• New feature
				  ○ Transceiver module alarm suppression
				• Modified feature
				  ○ Methods for IRF

Version number	Last version	Release Date	Release type	Remarks
1950-CMW710-R3115P01	R3115	2016-08-16	Release version	• Fixes bugs
				merge • Fixes bugs
1950-CMW710-R3111P02	R3110	2015-12-26	Release version	• Fixes bugs
1950-CMW710-R3110	R3109P16	2015-11-30	Release version	• New feature: o SNMP • Modified feature: o Applying a QoS policy • Fixes bugs
1950-CMW710-R3109P16	R3109P14	2015-11-17	Release version	• Fixes bugs
1950-CMW710-R3109P14	R3109P09	2015-10-31	Release version	• Fixes bugs • HPE rebranding
1950-CMW710-R3109P09	R3109P05	2015-9-14	Release version	• Fixes bugs
1950-CMW710-R3109P05	R3109P01	2015-6-16	Release version	• Fixes bugs
1950-CMW710-R3109P01	R3108P02	2015-4-2	Release version	• New features: o RADIUS voice VLAN attribute for 802.1X and MAC authentication o 802.1X online user handshake reply • Fixes bugs
1950-CMW710-R3108P02	ESS 3107	2015-1-12	Release version	• Fixes bugs
1950-CMW710-E3107	First release	2014-10-30	ESS version	First release

Hardware and software compatibility matrix

Table 2 Hardware and software compatibility matrix

Item	Specifications
Product family	1950 Switch Series
Hardware platform	HPE OfficeConnect 1950-24G-2SFP+-2XGT Switch JG960A HPE OfficeConnect 1950-48G-2SFP+-2XGT Switch JG961A HPE OfficeConnect 1950-24G-2SFP+-2XGT-PoE+ Switch JG962A HPE OfficeConnect 1950-48G-2SFP+-2XGT-PoE+ Switch JG963A
Minimum memory requirements	1 GB
Minimum Flash requirements	512 M

Item	Specifications
Boot ROM version	Version 145 or higher (Note: Use the summary command in any view to view the version information. Please see Note②)
Host software	1950-CMW710-R3115P01.ipe
iMC version	iMC EAD 7.2 (E0402) iMC UAM 7.2 (E0402) iMC PLAT 7.2 (E0403P04) iMC QoSM 7.2 (E0403)
iNode version	iNode PC 7.2 (E0401)
Web version	None
Remarks	None

Display the system software and Boot ROM versions of 1950:

```
<HPE>summary
Select menu option:             Summary
IP Method:                      Manual
IP address:                     100.1.1.12
Subnet mask:                    255.255.255.0
Default gateway:

IPv6 Method:
IPv6 link-local address:
IPv6 subnet mask length:
IPv6 global address:
IPv6 subnet mask length:
IPv6 default gateway:

Software images on slot 1:
Current software images:
  flash:/1950-cmw710-boot-r3115P01.bin
  flash:/1950-cmw710-system-r3115P01.bin
Main startup software images:
  flash:/1950-cmw710-boot-r3115P01.bin
  flash:/1950-cmw710-system-r3115P01.bin
Backup startup software images:
  None

HPE Comware Platform Software
HPE Comware Software, Version 7.1.045, Release 3115P01        ------ Note①
Copyright(C)2010-2016 Hewlett Packard Enterprise Development LP
HPE OfficeConnect 1950-48G-2SFP+-2XGT uptime is 0 weeks, 0 days, 0 hours, 1 minute


Slot 1:
Uptime is 0 weeks,0 days,0 hours,3 minutes
HPE OfficeConnect 1950-48G-2SFP+-2XG with 1 Processor
BOARD TYPE:         1950-48G-2SFP+-2XGT
```

```
DRAM:               1024M bytes
FLASH:              512M bytes
PCB 1 Version:      VER.B
Bootrom Version:    145                                        ------ Note②
CPLD 1 Version:     001
Release Version:    HPE OfficeConnect 1950-48G-2SFP+-2XG-3115P01
Patch Version  :    None
Reboot Cause   :    ColdReboot
[SubSlot 0] 48GE+2SFP-Plus+2XGT
```

Upgrading restrictions and guidelines

None.

Hardware feature updates

1950-CMW710-R3115P01

None.

1950-CMW710-R3115

None.

1950-CMW710-R3113P05

R3113P05 supports the following new hardware:

- Flashes that support 4-bit ECC check:
  - MICRON: MT29F4G08ABADAWP:D
  - SPANSION: S34ML01G200TFI003
- Flashes that support 8-bit ECC check:
  - MXIC: MX30LF4G28AB

1950-CMW710-R3113P03

None.

1950-CMW710-R3113P02

None.

1950-CMW710-R3112

None.

1950-CMW710-R3111P07

None.

1950-CMW710-R3111P03

None.

1950-CMW710-R3111P02

None.

1950-CMW710-R3110

None.

1950-CMW710-R3109P16

None.

1950-CMW710-R3109P14

None.

1950-CMW710-R3109P09

None.

1950-CMW710-R3109P05

None.

1950-CMW710-R3109P01

None.

1950-CMW710-R3108P02

None.

1950-CMW710-E3107

First release.

Software feature and command updates

For more information about the software feature and command update history, see *HPE 1950-CMW710-R3115P01 Release Notes (Software Feature Changes).*

MIB Updates

Table 3 MIB updates

Item	MIB file	Module	Description
1950-CMW710-R3115P01			
New	None	None	None
Modified	None	None	None
1950-CMW710-R3115			
New	None	None	None
Modified	None	None	None
1950-CMW710-R3113P05			
New	None	None	None
Modified	None	None	None
1950-CMW710-R3113P03			
New	New	New	New
Modified	Modified	Modified	Modified

Item	MIB file	Module	Description
1950-CMW710-R3113P02			
New	None	None	None
Modified	None	None	None
1950-CMW710-R3112			
New	None	None	None
Modified	None	None	None
1950-CMW710-R3111P07			
New	None	None	None
Modified	None	None	None
1950-CMW710-R3111P03			
New	None	None	None
Modified	None	None	None
1950-CMW710-R3111P02			
New	hh3c-port-security.mib	HH3C-PORT-SECURITY-MIB	Added descriptions and support for the following Trap: hh3cSecureAddressLearned hh3cSecureViolation hh3cSecureLoginFailure hh3cSecureLogon hh3cSecureLogoff hh3cSecureRalmLoginFailure hh3cSecureRalmLogon hh3cSecureRalmLogoff
Modified	None	None	None
1950-CMW710-R3110			
New	hh3c-splat-inf-new.mib	HH3C-LswINF-MIB	Added descriptions and support for the following MIBs: hh3cifPktBufTable
	hh3c-lsw-dev-adm.mib	HH3C-LSW-DEV-ADM-MIB	Added descriptions and support for the following MIBs: hh3cLswSlotPktBufFree hh3cLswSlotPktBufInit hh3cLswSlotPktBufMin hh3cLswSlotPktBufMiss
Modified	None	None	None
1950-CMW710-R3109P16			
New	New	New	New

Item	MIB file	Module	Description
1950-CMW710-R3109P14			
New	New	New	New
Modified	Modified	Modified	Modified
1950-CMW710-R3109P09			
New	New	New	New
Modified	Modified	Modified	Modified
1950-CMW710-R3109P05			
New	None	None	None
Modified	None	None	None
1950-CMW710-R3109P01			
New	None	None	None
Modified	rfc1213-mib.docx	IP-MIB	ipForwarding (1.3.6.1.2.1.4.1) Only support read operation ipDefaultTTL (1.3.6.1.2.1.4.2) Only support read operation
1950-CMW710-R3108P02			
New	None	None	None
Modified	None	None	None
1950-CMW710-E3107			
New	First release	First release	First release
Modified	First release	First release	First release

Operation Changes

Operation changes in R3115P01

None.

Operation changes in R3115P

None.

Operation changes in R3113P05

None.

Operation changes in R3113P03

None.

Operation changes in R3113P02

None.

Operation changes in R3112

None.

Operation changes in R3111P07

None.

Operation changes in R3111P03

Added support on Port Security logging.

Operation changes in R3111P02

None.

Operation changes in R3110

None.

Operation changes in R3109P16

None.

Operation changes in R3109P14

None.

Operation changes in R3109P09

None.

Operation changes in R3109P05

None.

Operation changes in R3109P01

None.

Operation changes in R3108P02

1. Change to the forwarding for packets with the destination MAC address 0180-c200-000e by default.

   Before modification, packets with the destination MAC address 0180-c200-000e are transparently forwarded by default.

   After modification, packets with the destination MAC address 0180-c200-000e are not transparently forwarded by default.
2. Deletes the autoconfiguration feature.

Operation changes in E3107

First release.

Restrictions and cautions

The offline detect timer for MAC authentication and the aging timer for dynamic MAC address entries must be set to the same value.

Open problems and workarounds

201605050154

- First found-in version: 1950-CMW710-R3113P02
- Symptom: After the COA issues an authorization ACL, the session-timeout timer and the offline function do not operate correctly for the authentication users.

- Condition: This symptom occurs if the switch has MAC authentication or 802.1X authentication enabled.
- Workaround: Use the COA to issue an authorization ACL that carries the session-timeout attribute.

List of resolved problems

Resolved problems in R3115P01

201607190589

- Symptom: When a port enabled with 802.1X authentication is repeatedly shut down and brought up, the 802.1X client directly connected to the port is logged off for authorization failure.
- Condition: This symptom might occur if a port enabled with 802.1X authentication is repeatedly shut down and brought up, and an 802.1X client is directly connected to the port.

201604260394

- Symptom: The short LACP timeout interval (3 seconds) is set on member ports of an aggregate interface. When the aggregate interface is down, traffic interruption lasts for 3 seconds instead of 6 seconds.
- Condition: This symptom might occur if the short LACP timeout interval (3 seconds) is set on member ports of an aggregate interface.

201605090525

- Symptom: CVE-2015-8138
- Condition: Fixed vulnerability in ntpd which attackers may be able to disable time synchronization by sending a crafted NTP packet to the NTP client.

201605090525

- Symptom: CVE-2015-7979
- Condition: Fixed vulnerability in ntpd allows attackers to send special crafted broadcast packets to broadcast clients, which may cause the affected NTP clients to become out of sync over a longer period of time.

201605090525

- Symptom: CVE-2015-7974
- Condition: Fixed vulnerability in NTP 4.x before 4.2.8p6 and 4.3.x before 4.3.90 which might allow remote attackers to conduct impersonation attacks via an arbitrary trusted key.

201605090525

- Symptom: CVE-2015-7973
- Condition: Fixed vulnerability when NTP is configured in broadcast mode, a man-in-the-middle attacker or a malicious client could replay packets received from the broadcast server to all

(other) clients, which cause the time on affected clients to become out of sync over a longer period of time.

201605170547

- Symptom: CVE-2016-1550
- Condition: Fixed vulnerability in ntpd function allow an attacker to conduct a timing attack to compute the value of the valid authentication digest causing forged packets to be accepted by ntpd.

201605170547

- Symptom: CVE-2016-1551
- Condition: Fixed vulnerability in ntpd allows unauthenticated network attackers to spoof refclock packets to ntpd processes on systems that do not implement bogon filtering.

201605170547

- Symptom: CVE-2016-2519
- Condition: Fixed vulnerability in ntpd will abort if an attempt is made to read an oversized value.

201605170547

- Symptom: CVE-2016-1547
- Condition: Fixed vulnerability where an off-path attacker can deny service to ntpd clients by demobilizing preemptable associations using spoofed crypto-NAK packets.

201605170547

- Symptom: CVE-2016-1548
- Condition: Fixed vulnerability where an attacker can change the time of an ntpd client or deny service to an ntpd client by forcing it to change from basic client/server mode to interleaved symmetric mode.

201605170547

- Symptom: CVE-2015-7704
- Condition: Fixed vulnerability in ntpd that a remote attacker could use, to send a packet to an ntpd client that would increase the client's polling interval value, and effectively disable synchronization with the server.

Resolved problems in R3115

201606070566

- Symptom: CVE-2016-2105
- Condition: Fixed vulnerability in “EVP Encode” in OpenSSL before 1.0.1t and 1.0.2 before 1.0.2h allows remote attackers to cause a denial of service (heap memory corruption) via a large amount of binary data.

201606070566

- Symptom: CVE-2016-2106
- Condition: Fixed vulnerability in “EVP Encrypt” in OpenSSL before 1.0.1t and 1.0.2 before 1.0.2h allows remote attackers to cause a denial of service (heap memory corruption) via a large amount of binary data.

201606070566

- Symptom: CVE-2016-2107
- Condition: Fixed vulnerability in OpenSSL before 1.0.1t and 1.02h allows remote attackers to obtain sensitive cleartext information via a padding-oracle attack against an AES CBC session.

201606070566

- Symptom: CVE-2016-2108
- Condition: Fixed vulnerability in OpenSSL before 1.0.1o and 1.0.2 before 1.0.2c allows remote attackers to execute arbitrary code or cause a denial of service (buffer underflow and memory corruption).

201606070566

- Symptom: CVE-2016-2109
- Condition: Fixed vulnerability in “asn” before 1.0.1t and 1.0.2 before 1.0.2h allows remote attackers to cause a denial of service (memory consumption) via a short invalid encoding.

201606070566

- Symptom: CVE-2016-2176
- Condition: Fixed vulnerability in “X509” in OpenSSL before 1.0.1t and 1.0.2 before 1.0.2h allows remote attackers to obtain sensitive information from memory or cause a denial of service

Resolved problems in R3113P05

201605030246

- Symptom: When a PC is quickly plugged and unplugged, the switch considers the PC as online.
- Condition: This symptom occurs if the following conditions exist:
  - The switch has both MAC authentication and 802.1X authentication enabled.
  - The PC performs MAC authentication.
  - The interface connecting to the PC has the unicast trigger or MAC authentication delay function configured.

201606010228

- Symptom: An interface cannot correctly forward multicast packets.

- Condition: This symptom occurs if both 802.1X authentication and MAC authentication are enabled on the interface and a user successfully passes MAC authentication.

201605060393

- Symptom: After a master/subordinate switchover, the VLAN configurations of interfaces are lost.
- Condition: This symptom occurs if the IRF subordinate member switch is rebooted and a master/subordinate switchover is performed.

201605250614

- Symptom: After the switch is rebooted, the speed autonegotiation option configuration becomes **speed auto 2** or **speed auto 3** on an interface configured with the **speed auto 1 2** or **speed auto 1 2 3** command.
- Condition: This symptom occurs if the following operations are performed:
  a. Configure the **speed auto 1 2** or **speed auto 1 2 3** command on the interface.
  b. Save the configuration.
  c. Restart the switch and recover the configuration by using the .cfg configuration file.

201605170504

- Symptom: In a three-chassis IRF fabric, after the master member is powered off and subordinate member 1 becomes the new master member, the VLAN configurations of interfaces on subordinate member 2 are lost.
- Condition: This symptom occurs if the following operations are performed:
  a. Use three switches to build an IRF fabric in a daisy-chain topology.
  b. Power on the master member.
  c. Power on subordinate member 1 and then subordinate member 2.
  d. Save the configuration after the IRF fabric is formed.

201601090054

- Symptom: When TCP port X is enabled, TCP port X + 2048*N is also enabled (N is an arbitrary integer).
- Condition: This symptom occurs if TCP port X is enabled, for example, TCP port 23 is enabled by using the **telnet server enable** command.

201603100197

- Symptom: On an inactivity aging-enabled interface, sticky MAC addresses age out before the secure MAC aging timer set by using the **port-security timer autolearn aging** command expires.
- Condition: This symptom might occur if the following operations are performed on an interface:
  - Enable port security and inactivity aging.
  - Use the **port-security timer autolearn aging** command to set the secure MAC aging timer.

Resolved problems in R3113P03

201604091715

- Symptom: When a 10G Base-T port is connected to a specific device model, speed autonegotiation takes 20 to 30 seconds and the negotiation result can only be 1 Gbps.
- Condition: This symptom might occur if a 10G Base-T port is connected to a specific device model.

Resolved problems in R3113P02

201604110101

- Symptom: After a period of time, PCs cannot join the 802.1X guest VLAN.
- Condition: This symptom occurs if the following conditions exist:
  - The switch has both 802.1X authentication and MAC authentication enabled.
  - The switch connects to multiple PCs through a hub.
  - The PCs fail to pass the MAC authentication.

201605180172

- Symptom: After the switch is rebooted, the speed downgrading autonegotiation configuration is undo speed auto downgrade on an interface that is configured with the speed auto downgrade command.
- Condition: This symptom occurs if the following operations are performed

201603010580

- Symptom: The VLAN dropdown list is unavailable on the **Network** > **IPv6** > **ND** > **New Neighbor Entry** page of the Web interface.
- Condition: This symptom might occur if IPv6 neighbor entries are configured on the **Network** > **IPv6** > **ND** > **New Neighbor Entry** page of the Web interface.

201508190171

- Symptom: After the MAC address entry and ARP entry of a MAC authentication user age out, the switch cannot generate new MAC address entry and ARP entry for the user.
- Condition: This symptom might occur if the following conditions exist:
  - MAC authentication is enabled, and MAC authentication offline detection is disabled.
  - The MAC address entry and ARP entry of a MAC authentication user age out.

201507300295

- Symptom: When DHCP snooping is enabled on an IRF fabric using the ring topology, IRF member switches reboot repeatedly.

- Condition: This symptom might occur if DHCP snooping is enabled on an IRF fabric using the ring topology.

201604140100

- Symptom: MAC authentication users cannot come online if the server issues the Cisco-AVPair attribute to the switch.
- Condition: This symptom might occur if the server issues the Cisco-AVPair attribute to the switch.

201603120042

- Symptom: The switch does not respond to the security commands input by a console user.
- Condition: This symptom might occur if the following conditions exist:
  - LLDP and access authentication are enabled on the switch.
  - The intrusion protection action is set to disable on an interface, and intrusion protection is triggered because the phone connected to the interface fails authentication.

201603230420

- Symptom: CVE-2016-0705
- Condition: Fixed vulnerability when OpenSSL parses malformed DSA private keys and could lead to a DoS attack or memory corruption for applications that receive DSA private keys from untrusted sources.

201603230420

- Symptom: CVE-2016-0798
- Condition: Fixed vulnerability in OpenSSL 1.0.1 before 1.0.1s and 1.0.2 before 1.0.2g allows remote attackers to cause a denial of service (memory consumption) by providing an invalid username in a connection attempt.

201603230420

- Symptom: CVE-2016-0797
- Condition: Fixed vulnerability in OpenSSL 1.0.1 before 1.0.1s and 1.0.2 before 1.0.2g allow remote attackers to cause a denial of service (heap memory corruption or NULL pointer dereference).

201603230420

- Symptom: CVE-2016-0799
- Condition: Fixed vulnerability in OpenSSL 1.0.1 before 1.0.1s and 1.0.2 before 1.0.2g improperly calculates string lengths, which allows remote attackers to cause a denial of service which could lead to memory allocation failure or memory leaks.

201603230420

- Symptom: CVE-2016-0702

- Condition: Fixed vulnerability in OpenSSL 1.0.1 before 1.0.1s and 1.0.2 before 1.0.2g which makes it easier for local users to discover RSA keys leveraging cache-bank conflicts, aka a "CacheBleed" attack.

201603230420

- Symptom: CVE-2016-2842
- Condition: Fixed vulnerability in the doapr_outch function in crypto/bio/b_print.c, which allows remote attackers to cause a denial of service (out-of-bounds write or memory consumption) or possibly have unspecified other impact via a long string.

201603180535

- Symptom: CVE-2016-0701
- Condition: Fixed vulnerability in the DH_check_pub_key function which makes it easier for remote attackers to discover a private DH (Diffie-Hellman) exponent by making multiple handshakes with a peer that chose an inappropriate number. This issue affects OpenSSL version 1.0.2. and addressed in 1.0.2f. OpenSSL 1.0.1 is not affected by this CVE.

201603180535

- Symptom: CVE-2015-3197
- Condition: Fixed vulnerability when using SSLv2 which can be exploited in a man-in-the-middle attack, if device has disabled ciphers.

201512280388

- Symptom: 802.1X users are reauthenticated.
- Condition: This symptom occurs if the following conditions exist:
  - The keep-online feature is enabled for 802.1X users.
  - Online 802.1X users receive EAPOL-Start packets.

201602040568

- Symptom: An IP phone is reauthenticated every 30 seconds when the Web authentication server is unreachable.
- Condition: This symptom occurs if the IP phone is connected to a port enabled with 802.1X authentication and Web authentication.

201602160644

- Symptom: The ARP packets received from a peer device are not broadcasted in a VLAN.
- Condition: This symptom occurs if ARP snooping is enabled in the VLAN.

201510150328

- Symptom: The **undo ssl version** { **tls1.0** | **tls1.1** } **disable** command configuration does not take effect.
- Condition: This symptom occurs if the switch is operating in FIPS mode or non-FIPS mode.

201512290192

- Symptom: CVE-2015-3194
- Condition: Fixed vulnerability which can be exploited in a DoS attack, if device is presented with a specific ASN.1 signature using the RSA.

201512290192

- Symptom: CVE-2015-3195
- Condition: Fixed vulnerability with malformed OpenSSL X509_ATTRIBUTE structure used by the PKCS#7 and CMS routines which may cause memory leak.

201512290192

- Symptom: CVE-2015-3196
- Condition: Fixed vulnerability where a race condition can occur when specific PSK identity hints are received.

201512290192

- Symptom: CVE-2015-1794
- Condition: Fixed vulnerability if a client receives a ServerKeyExchange for an anonymous Diffie-Hellman (DH) ciphersuite which can cause possible Denial of Service (DoS) attack.

Resolved problems in R3112

201602040025

- Symptom: After the **lldp notification med-topology-change enable** command is executed on a PoE-capable switch, the LLDP process exits unexpectedly and the IP phones connected to the PIs of the switch cannot operate correctly.
- Condition: This symptom might occur if the command is executed on a PoE-capable switch and IP phones are connected to the PIs of the switch.

201601110412

- Symptom: The CPU usage of an IRF fabric is high if LLDP is enabled on a large number of up interfaces.
- Condition: This symptom might occur if LLDP is enabled for a large number of up interfaces on an IRF fabric.

201602170470

- Symptom: The add or remove DNS server IP operation fails on the **Network** > **DNS** page of the Web interface.
- Condition: This symptom might occur if a DNS server IP address is added or removed on the **Network** > **DNS** page of the Web interface.

201601270478

- Symptom: The **Resources** > **PKI** page of the Web interface stays in the loading status.
- Condition: This symptom might occur if the **Resources** > **PKI** page of the Web interface is accessed.

201603100197

- Symptom: On an inactivity aging-enabled interface, sticky MAC addresses age out before the secure MAC aging timer set by using the **port-security timer autolearn aging** command expires.
- Condition: This symptom might occur if the following operations are performed on an interface:
  - Enable port security and inactivity aging.
  - Use the **port-security timer autolearn aging** command to set the secure MAC aging timer.

201601280398

- Symptom: When the Firefox browser is used to access the Web interface, the dropdown lists on some pages are unavailable.
- Condition: This symptom might occur if the Firefox browser is used to perform one of the following operations:
  - Add IPv4 static routes on the **Network** > **Static Routing** page.
  - Create a rate limit for an interface on the **QoS** > **Rate Limit** page.
  - Configure IRF port bindings on the **Device** > **IRF** page.

Resolved problems in R3111P07

201512130013

- Symptom: An interface in a VLAN mapped to an MSTI fails to be assigned to the MSTI.
- Condition: This symptom might occur if the link type of the interface is changed between trunk and access repeatedly.

201601130674

- Symptom: After a user exits the console login page, the user cannot log in to the switch again through the console port.
- Condition: This symptom occurs if the **restore factory-default** command is executed to restore factory default configuration.

201601180281

- Symptom: A Web page is incorrectly displayed. To display the correct page, you must refresh the page.
- Condition: This symptom occurs if you access the **Device**, **Network**, or **QoS** page first through Web and then access other pages.

201512230197

- Symptom: The PoE status is incorrectly displayed for an interface.
- Condition: This symptom occurs if you access the PoE configuration page of a PoE switch through Web.

201511160443

- Symptom: During 802.1X authentication that uses the EAP method, the RADIUS packets exchanged in one user authentication process might be sent to different servers.
- Condition: This symptom occurs if RADIUS server load sharing is enabled on the switch.

201507310169

- Symptom: The subordinate IRF member switch might reboot unexpectedly.
- Condition: This symptom might occur if patches are repeatedly installed and removed in an IRF fabric.

Resolved problems in R3111P03

201511300121

- Symptom: The switch acting as an NTP client cannot be synchronized to an NTP server.
- Condition: This symptom occurs if the NTP server is a Cisco device.

201510300354

- Symptom: A user goes offline immediately after the user comes online through 802.1X authentication.
- Condition: This symptom occurs if the following conditions exist:
  - Another user comes online through MAC authentication before the 802.1X user.
  - The 802.1X user is assigned the same VLAN as the MAC-authenticated user.

201512090334

- Symptom: The operation of backing up the configuration file fails.
- Condition: This symptom occurs if the following conditions exist:
  - The MIB node hh3cCfgOperateServerAddress is configured to specify the file backup server.
  - The IP address of the file backup server is in the range of x.x.x.224 to x.x.x.255.

201511190408

- Symptom: CVE-2015-7871
- Condition: Cause ntpd to accept time from unauthenticated peers.

201511190408

- Symptom: CVE-2015-7704

- Condition: An ntpd client forged by a DDoS attacker located anywhere on the Internet, that can exploit NTP's to disable NTP at a victim client or it may also trigger a firewall block for packets from the target machine.

201511190408

- Symptom: CVE-2015-7705
- Condition: The DDoS attacker can send a device a high volume of ntpd queries that are spoofed to look like they come from the client. The servers then start rate-limiting the client.

201511190408

- Symptom: CVE-2015-7855
- Condition: Ntpd mode 6 or mode 7 packet containing an unusually long data value could possibly use cause NTP to crash, resulting in a denial of service.

201501160412

- Symptom: The switch cannot send trap messages if it is rebooted after SNMP is configured. The switch can send trap messages correctly if it is rebooted again.
- Condition: This symptom might occur if the following operations have been performed:
  - Configure SNMP.
  - Save the configuration and reboot the switch.
  - Enter the CLI and do not execute any commands.

201511230171

- Symptom: The CPU occupied by the aclmgrd process is not released. As a result, the CPU usage of the switch is high.
- Condition: This symptom occurs if master/subordinate switchover occurs in an IRF fabric.

Resolved problems in R3111P02

201512040456

- Symptom: A subordinate switch in an IRF fabric reboots repeatedly.
- Condition: This symptom occurs if the .mdb file is deleted and the IRF fabric is power cycled.

201511190389

- Symptom: The CPU usage of an IRF fabric is high.
- Condition: This symptom occurs if the following conditions exist:
  - A VLAN interface on the IRF fabric is configured with an IP address.
  - A member switch in the IRF fabric is configured as a DHCP server.

201512200032

- Symptom: On an IRF fabric enabled with 802.1X or MAC authentication, the CPU usage is high on the member switches that do not reboot after an active/standby MPU switchover occurs.
- Condition: This symptom might occur if 802.1X or MAC authentication is configured on the IRF fabric, and an active/standby MPU switchover occurs.

201512170385

- Symptom: The Dashboard page of the Web interface displays incorrect device type information.
- Condition: This symptom might occur if the Web interface is used to log in to the switch.

Resolved problems in R3110

201510280475

- Symptom: A user goes offline immediately after the user comes online through 802.1X authentication.
- Condition: This symptom occurs if the switch uses a RADIUS scheme and local accounting for 802.1X authentication.

201511180069

- Symptom: The first 24 ports on a 52-port switch cannot communicate with the last 24 ports on the switch.
- Condition: This symptom might occur if the switch is rebooted repeatedly.

201508170320

- Symptom: The value of the entPhysicalVendorType node for a transceiver module cannot be obtained through a MIB tool.
- Condition: This symptom occurs if the following operations have been performed:
  - Use the **combo enable fiber** command on a combo interface to activate its fiber combo port.
  - Install the transceiver module into the fiber combo port.

Resolved problems in R3109P16

201507160220

- Symptom: CVE-2014-8176
- Condition: If a DTLS peer receives application data between the ChangeCipherSpec and Finished messages. May result in a segmentation fault or potentially, memory corruption.

201507160220

- Symptom:CVE-2015-1788

- Condition: When processing an ECParameters structure OpenSSL enters an infinite loop. This can be used to perform denial of service against any system which processes public keys, certificate requests or certificates.

201507160220

- Symptom: CVE-2015-1789
- Condition: X509_cmp_time does not properly check the length of the ASN1_TIME string and/or accepts an arbitrary number of fractional seconds in the time string. An attacker can use this to craft malformed certificates and CRLs of various sizes and potentially cause a segmentation fault, resulting in a DoS on applications that verify certificates or CRLs.

201507160220

- Symptom: CVE-2015-1790
- Condition: The PKCS#7 parsing code does not handle missing inner EncryptedContent correctly. An attacker can craft malformed PKCS#7 blobs with missing content and trigger a NULL pointer dereference on parsing.

201507160220

- Symptom: CVE-2015-1791
- Condition: If a NewSessionTicket is received by a multi-threaded client when attempting to reuse a previous ticket then a race condition can occur potentially leading to a double free of the ticket data.

201507160220

- Symptom: CVE-2015-1792
- Condition: When verifying a signedData message the CMS code can enter an infinite loop. This can be used to perform denial of service against any system which verifies signedData messages using the CMS code.

Resolved problems in R3109P14

201504130201

- Symptom: After successful 802.1X authentication, a port sets the tagging status to untagged for packets of a voice VLAN. As a result, IP phones receive untagged packets.
- Condition: This symptom might occur if the following conditions exist:
  - 802.1X authentication and voice VLAN are configured on the port.
  - The device-traffic-class=voice attribute is configured on the authentication server.

201509020039

- Symptom: User authentication fails.
- Condition: This symptom occurs if the switch uses an ACS 5.6 server to perform AAA authentication.

201509160335

- Symptom: User authentication fails.
- Conditions: This symptom occurs if the PEAP authentication method is used to perform 802.1X authentication.

201509110280

- Symptom: The switch performs 802.1X reauthentication when it receives an EAPOL-Start message from a Windows client. After several reauthentication failures, the Windows client is put in silent state, and its NIC becomes unavailable.
- Condition: This symptom might occur if the following conditions exist:
  - 802.1X authentication and voice VLAN are configured on the switch.
  - The authentication server is unreachable, and the Windows client is in the 802.1X critical VLAN.

201509260060

- Symptom: The Web interface is slow in refreshing webpages or does not respond when PoE is configured for an IRF fabric.
- Condition: This symptom might occur if the Web interface is used to configure PoE for an IRF fabric.

201510130396

- Symptom: Some services might operate incorrectly or the switch might reboot unexpectedly.
- Condition: This symptom occurs when a MIB management tool is used to obtain the power supply information of the switch.

Resolved problems in R3109P09

201509010289

- Symptom: The switch logs out a MAC-authenticated user that sends packets to the switch before the offline detect timer expires.
- Condition: This symptom might occur if MAC authentication is configured.

201508080233

- Symptom: The switch cannot start up.
- Condition: This symptom occurs if the switch's flash memory is corrupted.

201508310155

- Symptom: An interface advertises an Auto-negotiation TLV with an incorrect value and fails to negotiate with the peer interface.
- Condition: This symptom occurs when LLDP is enabled globally and on the interface.

201508120317

- Symptom: The poe max power configuration is automatically generated for an interface after the connected IP phone sends an LLDP frame to request power.
- Condition: This symptom might occur if the connected IP phone sends an LLDP frame to request power from the interface.

201506180249

- Symptom: CVE-2015-3143
- Description: cURL and libcurl 7.10.6 through 7.41.0 does not properly re-use NTLM connections, which allows remote attackers to connect as other users via an unauthenticated request.

201506180249

- Symptom: CVE-2015-3148
- Description: cURL and libcurl 7.10.6 through 7.41.0 does not properly re-use authenticated Negotiate connections, which allows remote attackers to connect as other users via a request.

201506100324

- Symptom: Software upgrade fails for an IRF fabric from the Web interface.
- Conditions: This symptom might occur when you upgrade software for the IRF fabric from the Web interface.

201503050138

- Symptom: The flash memory of an IRF subordinate device is not available after the device reboots to rejoin the IRF fabric.
- Conditions: This symptom might occur if you have saved running configuration only for this subordinate device in the IRF fabric before you reboot the device.

201504090194

- Symptoms: CVE-2015-0209
- Condition: A malformed EC private key file consumed via the d2i_ECPrivateKey function could cause a use after free condition. This could lead to a DoS attack or memory corruption for applications that receive EC private keys from untrusted sources.

201504090194

- Symptoms: CVE-2015-0286
- Condition: DoS vulnerability in certificate verification operation. Any application which performs certificate verification is vulnerable including OpenSSL clients and servers which enable client authentication.

201504090194

- Symptoms: CVE-2015-0287

- Condition: Reusing a structure in ASN.1 parsing may allow an attacker to cause memory corruption via an invalid write. Applications that parse structures containing CHOICE or ANY DEFINED BY components may be affected.

201504090194

- Symptoms:CVE-2015-0288
- Condition: The function X509_to_X509_REQ will crash with a NULL pointer dereference if the certificate key is invalid.

201504090194

- Symptoms: CVE-2015-0289
- Condition: The PKCS#7 parsing code does not handle missing outer ContentInfo correctly. An attacker can craft malformed ASN.1-encoded PKCS#7 blobs with missing content and trigger a NULL pointer dereference on parsing.

201505150249

- Symptom: TCP processing errors occur during an NQA operation. The operation fails, and services are interrupted on the switch.
- Condition: This symptom might occur if an NQA operation is performed on the switch.

201504200256

- Symptom: The switch cannot provide DHCP services correctly as a DHCP server.
- Condition: This symptom might occur if the following conditions exist:
  - A DHCP client has obtained an IP address from the DHCP server, and its address lease expires.
  - The client is configured as a BOOTP client.

201505240024

- Symptom: Some PoE registers restore the default values after the PoE firmware is online updated.
- Condition: This symptom might occur if a PoE firmware online update is performed.

201506170069

- Symptom: An 802.1X client is forced to log off soon after it logs in.
- Condition: This symptom occurs if the 802.1X authentication server assigns security policies such as ACL and user profile to the client after the client passes the 802.1X authentication.

Resolved problems in R3109P05

201505150457

- Symptom: A PoE switch cannot supply power over PoE to IP phones of some vendors.

- Condition: This symptom occurs when you connect the IP phones to the switch and supply power over PoE.

201506130010

- Symptom: A port is brought up and can forward packets when the MDIX mode negotiation fails.
- Condition: This symptom occurs if the following operations have been performed:
  - Use a straight-through cable to connect the port and its peer port.
  - Configure the same MDI (or MDIX) mode at both ends of the cable.

201504020079

- Symptom: The Web interface is stuck at the **Please wait…** window when you upgrade system software in the Web interface.
- Condition: This symptom occurs after you select the upgrade file and click **Apply** in the Web interface.

201502110444

- Symptom: The switch reconnects to the SDN controller immediately after an unexpected disconnection from the controller.
- Condition: This symptom might occur if an active/standby MPU switchover occurs when the controller is issuing a large number of flow table entries to the switch.

201506100226

- Symptom: The port connected to an IP phone is removed from the voice VLAN after both the LLDP aging timer and the voice VLAN aging timer expire.
- Condition: This symptom might occur if the switch establishes a neighbor relationship with the IP phone and advertises voice VLAN information to the IP phone through LLDP.

201504210120

- Symptom: The PSE status setting of an IRF fabric is missing after a subordinate switch is rebooted.
- Condition: This symptom might occur if the following conditions exist:
  - The IRF fabric contains multiple members.
  - The **poe enable pse** command is configured on the IRF fabric.
  - The subordinate switch is a PoE switch.

201505110287

- Symptom: A user passes MAC authentication, but the authentication server fails to assign the authorization VLAN to the user.
- Condition: This symptom occurs if the VLAN attribute issued by the authentication server in the Access-Accept packet ends with **\0x00**.

201505270138

- Symptom: The switch cannot use IP subnet-based VLANs to match and forward untagged packets.
- Condition: This symptom might occur if IP subnet-based VLANs are configured on the switch.

201412120103

- Symptom: After a reboot, the IDs of some members in an IRF fabric are changed to the default number 1. The affected members cannot rejoin the IRF fabric.
- Condition: This symptom might occur if operations are frequently performed on the NOR flash memory, for example, save the configuration file frequently.

201505110140

- Symptom: The switch reboots unexpectedly or cannot provide services correctly when a MAC address move occurs.
- Condition: This symptom might occur if one of the following conditions exists on the switch:
  - 100 or more ARP entries in a VLAN have the same MAC address, and the MAC address moves between ports.
  - The MAC address of an ARP entry moves between ports five times per second or more frequently.

Resolved problems in R3109P01

201501290379

- Symptom: 802.1X users fail to log in.
- Condition: This symptom occurs if the authorization VLANs assigned by the authentication server use a format incompatible with the switch.

201412150089

- Symptom: Portal users log out unexpectedly.
- Condition: This symptom occurs if the following conditions exist:
  - DHCP and portal roaming are enabled.
  - The portal users roam between APs by using mobile devices.

201503020204

- Symptom: A PoE switch cannot supply power correctly.
- Condition: This symptom occurs if the PoE module receives incorrect instructions.

201501210272

- Symptom: CVE-2014-3569

- Condition: The ssl23_get_client_hello function in s23_srvr.c in OpenSSL 0.9.8zc, 1.0.0o, and 1.0.1j does not properly handle attempts to use unsupported protocols, which allows remote attackers to cause a denial of service (NULL pointer dereference and daemon crash) via an unexpected handshake, as demonstrated by an SSLv3 handshake to a no-ssl3 application with certain error handling.

201501210272

- Symptom: CVE-2014-3571
- Condition: A carefully crafted DTLS message can cause a segmentation fault in OpenSSL due to a NULL pointer dereference. This could lead to a Denial Of Service attack.

201501210272

- Symptom: CVE-2015-0206
- Condition: A memory leak can occur in the dtls1_buffer_record function under certain conditions. In particular this could occur if an attacker sent repeated DTLS records with the same sequence number but for the next epoch. The memory leak could be exploited by an attacker in a Denial of Service attack through memory exhaustion.

201501210272

- Symptom: CVE-2015-0205
- Condition: An OpenSSL server will accept a DH certificate for client authentication without the certificate verify message. This effectively allows a client to authenticate without the use of a private key. This only affects servers which trust a client certificate authority which issues certificates containing DH keys.

201501210272

- Symptom: CVE-2014-3570
- Condition: Bignum squaring (BN_sqr) may produce incorrect results on some platforms, including x86_64. This bug occurs at random with a very low probability, and is not known to be exploitable in any way.

201501210272

- Symptom: CVE-2015-0204
- Condition: An OpenSSL client will accept the use of an RSA temporary key in a non-export RSA key exchange ciphersuite. A server could present a weak temporary key and downgrade the security of the session.

201501210272

- Symptom: CVE-2014-3572
- Condition: An OpenSSL client will accept a handshake using an ephemeral ECDH ciphersuite using an ECDSA certificate if the server key exchange message is omitted. This effectively removes forward secrecy from the ciphersuite.

201501210272

- Symptom: CVE-2014-8275
- Condition: By modifying the contents of the signature algorithm or the encoding of the signature, it is possible to change the certificate's fingerprint. Only custom applications that rely on the uniqueness of the fingerprint may be affected.

Resolved problems in R3108P02

201411140514

- Symptom: The IRF member ID configuration might fail to take effect.
- Condition: This symptom can be seen when you modify the IRF member ID of a switch.

201412120040

- Symptom: CVE-2014-3567
- Condition: When an OpenSSL SSL/TLS/DTLS server receives a session ticket the integrity of that ticket is first verified. In the event of a session ticket integrity check failing, OpenSSL will fail to free memory causing a memory leak. By sending a large number of invalid session tickets an attacker could exploit this issue in a Denial of Service attack.

201412120040

- Symptom: SSL 3.0 Fallback protection
- Condition: OpenSSL has added support for TLS_FALLBACK_SCSV to allow applications to block the ability for a MITM attacker to force a protocol downgrade. Some client applications (such as browsers) will reconnect using a downgraded protocol to work around interoperability bugs in older servers. This could be exploited by an active man-in-the-middle to downgrade connections to SSL 3.0 even if both sides of the connection support higher protocols. SSL 3.0 contains a number of weaknesses including POODLE (CVE-2014-3566).

201501070257

- Symptom: An HP switch cannot use CDP-compatible LLDP to exchange information with a Cisco device.
- Condition: This symptom occurs when the following conditions exist:
  - The HP switch is directly connected to a Cisco device.
  - The HP switch is enabled with LLDP.
  - The Cisco device is enabled with CDP.

201407160505

- Symptom: The message showing that "Transceiver type and port configuration mismatched!" appears.
- Condition: This symptom occurs when a 1000-Mbps transceiver module is installed and removed repeatedly.

Resolved problems in E3107

First release

Support and other resources

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:

  www.hpe.com/assistance
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:

  www.hpe.com/support/hpesc

Information to collect:

- Technical support registration number (if applicable).
- Product name, model or version, and serial number.
- Operating system name and version.
- Firmware version.
- Error messages.
- Product-specific reports and logs.
- Add-on products or components.
- Third-party products or components.

Documents

To find related documents, see the Hewlett Packard Enterprise Support Center website at http://www.hpe.com/support/hpesc.

- Enter your product name or number and click **Go**. If necessary, select your product from the resulting list.
- For a complete list of acronyms and their definitions, see HPE FlexNetwork technology acronyms.

Related documents

The following documents provide related information:

- *HPE 1950 Switch Series Getting Started Guide*

- *HPE 1950 Switch Series User Guide-Release 311x*

Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (docsfeedback@hpe.com). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.

Appendix A Feature list

Hardware features

Table 4 1950 series hardware features for non-PoE switch models

Item	HPE OfficeConnect 1950-24G-2SFP+-2XGT Switch	HPE OfficeConnect 1950-48G-2SFP+-2XGT Switch
Dimensions (H × W × D)	43.6 × 440 × 160 mm (1.72 × 17.32 × 6.30 in)	43.6 × 440 × 270 mm (1.72 × 17.32 × 10.63 in)
Weight	≤ 3 kg (6.61 lb)	≤ 5 kg (11.02 lb)
Console ports	1	1
10/100/1000 Base-T Ethernet ports	24	48
1/10G Base-T Ethernet ports	2	2
SFP+ ports	2	2
Power supply slots	N/A	N/A

Input voltage	• Rated voltage: 100 VAC to 240 VAC @ 50 or 60 Hz
	• Max voltage: 90 VAC to 264 VAC @ 47 to 63 Hz
		• AC power source
		  ○ Rated voltage: 100 VAC to 240 VAC @ 50 or 60 Hz
		  ○ Max voltage: 90 VAC to 264 VAC @ 47 to 63 Hz

Minimum power consumption	20 W	• AC: 36 W
Maximum power consumption	34 W	• AC: 46 W
Chassis leakage current compliance	• UL60950-1 • EN60950-1 • IEC60950-1 • GB4943.1	
Melting current of power supply fuse	AC-input: 2 A/250 V	AC-input: 3.15 A/250 V
Operating temperature	0°C to 45°C (32°F to 113°F)	
Operating humidity	5% to 95%, noncondensing	

Item	HPE OfficeConnect 1950-24G-2SFP+-2XGT Switch	HPE OfficeConnect 1950-48G-2SFP+-2XGT Switch
Fire resistance compliance	• UL60950-1 • EN60950-1 • IEC60950-1 • GB4943.1	

Table 5 1950 series hardware features for PoE switch models

Item	HPE OfficeConnect 1950-24G-2SFP+-2XGT-PoE+ Switch	HPE OfficeConnect 1950-48G-2SFP+-2XGT-PoE+ Switch
Dimensions (H × W × D)	43.6 × 440 × 360 mm (1.72 × 17.32 × 14.17 in)	43.6 × 440 × 420 mm (1.72 × 17.32 × 16.53 in)
Weight	≤ 6 kg (13.23 lb)	≤ 7 kg (15.43 lb)
Console ports	1	1
10/100/1000Base-T Ethernet ports	24	48
1/10G Base-T Ethernet ports	2	2
SFP+ ports	2	2

Input voltage	• AC power source
	  ○ Rated voltage: 100 VAC to 240 VAC @ 50 or 60 Hz
	  ○ Max voltage: 90 VAC to 264 VAC @ 47 to 63 Hz
	• DC power source: HP A-RPS1600
	  ○ Rated voltage: –54 VDC to –57 VDC
	  ○ Max voltage: –44 VDC to –60 VDC for single DC input and –54 VDC to –57 VDC for AC+DC dual inputs	

Maximum PoE per port	30 W	30 W
Total PoE	• AC: 370 W • DC: 740 W	• AC: 370 W • DC: 800 W
Minimum power consumption	• AC: 31 W • DC: 20 W	• AC: 43 W • DC: 30 W
Maximum power consumption (including PoE consumption)	• AC: 425 W (including 370 W PoE consumption) • DC: 770 W (including 740 W PoE consumption)	• AC: 470 W (including 370 W PoE consumption) • DC: 910 W (including 800 W PoE consumption)
Chassis leakage current compliance	• UL60950-1 • EN60950-1 • IEC60950-1 • GB4943.1	
Melting current of power supply fuse	• AC-input: 10 A/250 V • DC-input: 25 A/250 V	• AC-input: 10 A/250 V • DC-input: 25 A/250 V
Operating temperature	0°C to 45°C (32°F to 113°F)	

Item	HPE OfficeConnect 1950-24G-2SFP+-2XGT-PoE+ Switch	HPE OfficeConnect 1950-48G-2SFP+-2XGT-PoE+ Switch
Operating humidity	5% to 95%, noncondensing	
Fire resistance compliance	• UL60950-1 • EN60950-1 • IEC60950-1 • GB4943.1	

Software features

Table 6 Software features of the 1950 series

Feature	HPE OfficeConnect 1950-24G-2SFP+-2XGT Switch	HPE OfficeConnect 1950-48G-2SFP+-2XGT Switch	HPE OfficeConnect 1950-24G-2SFP+-2XGT-PoE+ Switch	HPE OfficeConnect 1950-48G-2SFP+-2XGT-PoE+ Switch
Full duplex Wire speed L2 switching capacity	128 Gbps	176 Gbps	128 Gbps	176 Gbps
Whole system Wire speed L2 switching Packet forwarding rate	95.232 Mpps	130.952 Mpps	95.232 Mpps	130.952 Mpps
Forwarding mode	Store-forward			
IRF	• Ring topology • Daisy chain topology • IRF comprised of different models			
Link aggregation	• Aggregation of 10-GE ports • Aggregation of GE ports • Static link aggregation • Dynamic link aggregation • Inter-device aggregation • A maximum of 14 aggregation groups on a device • A maximum of 128 inter-device aggregation groups • A maximum of 8 ports for each aggregation group			
Flow control	• IEEE 802.3x flow control • Back pressure			
Jumbo Frame	• Supports maximum frame size of 9000			
MAC address table	• 16K MAC addresses • 1K static MAC addresses • Blackhole MAC addresses • MAC address learning limit on a port			
VLAN	• Port-based VLANs (4094 VLANs)			

Feature	HPE OfficeConnect 1950-24G-2SFP+ -2XGT Switch	HPE OfficeConnect 1950-48G-2SFP+ -2XGT Switch	HPE OfficeConnect 1950-24G-2SFP+ -2XGT-PoE+ Switch	HPE OfficeConnect 1950-48G-2SFP +-2XGT-PoE+ Switch
ARP	• 256 entries • 64 static entries • Gratuitous ARP • Common proxy ARP and local proxy ARP • ARP source suppression • ARP black hole • ARP detection (based on DHCP snooping entries/802.1X security entries/static IP-to-MAC bindings)			
ND	• 256 entries • 64 static entries			
VLAN virtual interface	8			
DHCP	• DHCP client • DHCP snooping • DHCP relay agent • DHCP server			
DNS	• Static DNS • Dynamic DNS • IPv4 and IPv6 DNS			
IPv4 unicast route	• 64 static routes • Policy-based routing			
IPv6 unicast route	• 32 static routes			
Multicast	• IGMP snooping • MLD snooping			
Broadcast/multicast/unicast storm control	• Storm control based on port rate percentage • PPS-based storm control • Bps-based storm control			
MSTP	• STP/RSTP/MSTP protocol • STP Root Guard • BPDU Guard • 16 PVST instances			
QoS/ACL	• Remarking of 802.1p and DSCP priorities • Packet filtering at L2 (Layer 2) through L4 (Layer 4) • Eight output queues for each port • SP/WRR/SP+WRR queue scheduling algorithms • Port-based rate limiting • Flow-based redirection • Time range			
Mirroring	• Stream mirroring • Port mirroring • Multiple mirror observing port			
Remote mirroring	• Port remote mirroring (RSPAN)			

Feature	HPE OfficeConnect 1950-24G-2SFP+ -2XGT Switch	HPE OfficeConnect 1950-48G-2SFP+ -2XGT Switch	HPE OfficeConnect 1950-24G-2SFP+ -2XGT-PoE+ Switch	HPE OfficeConnect 1950-48G-2SFP +-2XGT-PoE+ Switch
Security	• Hierarchical management and password protection of users • AAA authentication • RADIUS authentication • SSH 2.0 • Port isolation • 802.1X • Port security • MAC-address-based authentication • IP Source Guard • HTTPS • PKI • EAD			
802.1X	• Up to 2,048 users • Port-based and MAC address-based authentication • Trunk port authentication • Dynamic 802.1X-based QoS/ACL/VLAN assignment			
Loading and upgrading	• Loading and upgrading through XModem protocol • Loading and upgrading through FTP • Loading and upgrading through the trivial file transfer protocol (TFTP)			
Management	• Configuration at the command line interface • Remote configuration through Telnet • Configuration through Console port • Simple network management protocol (SNMP) • IMC NMS • System log • Hierarchical alarms • NTP • Power supply alarm function • Fan and temperature alarms			
Maintenance	• Ping and Tracert • Remote maintenance through Telnet			

Appendix B Upgrading software

This chapter describes types of software used on the switch and how to upgrade software while the switch is operating normally or when the switch cannot correctly start up.

System software file types

Software required for starting up the switch includes:

- **Boot ROM image**—A .bin file that comprises a basic section and an extended section. The basic section is the minimum code that bootstraps the system. The extended section enables hardware initialization and provides system management menus. You can use these menus to load software and the startup configuration file or manage files when the switch cannot correctly start up.
- **Software images**—Includes boot images and system images.
  - **Boot image**—A .bin file that contains the operating system kernel. It provides process management, memory management, file system management, and the emergency shell.
  - **System image**—A .bin file that contains the minimum modules required for device operation and some basic features, including device management, interface management, configuration management, and routing management.

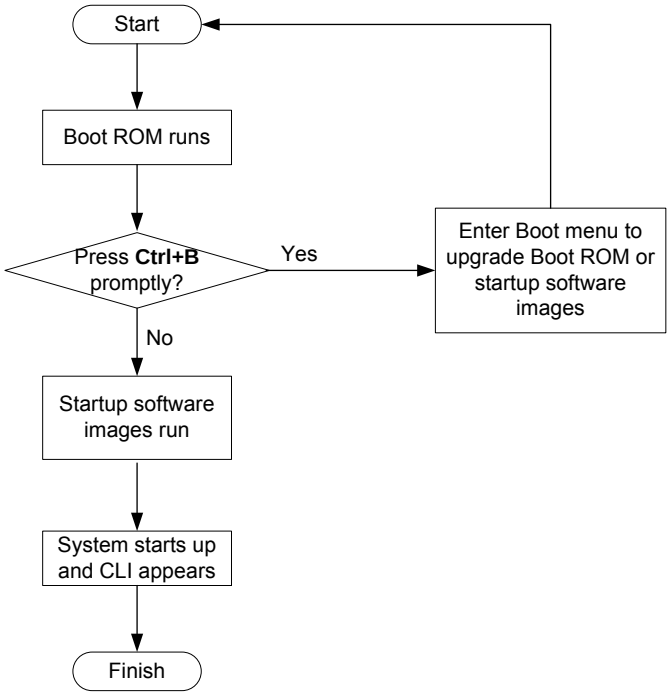
  The software images that have been loaded are called “current software images.” The software images specified to load at next startup are called “startup software images.”

These images might be released separately or as a whole in one .ipe package file. If an .ipe file is used, the system automatically decompresses the file, loads the .bin boot and system images in the file and sets them as startup software images. Typically, the Boot ROM and software images for this switch series are released in an .ipe file named **main.ipe**.

System startup process

Upon power-on, the Boot ROM image runs to initialize hardware and then the software images run to start up the entire system, as shown in Figure 1.

Figure 1 System startup process



Upgrade methods

You can upgrade system software by using one of the following methods:

Upgrading method	Software types	Remarks
Upgrading from the CLI	• Boot ROM image • Software images	• You must reboot the switch to complete the upgrade. • This method can interrupt ongoing network services.
Upgrading from the Boot menu	• Boot ROM image • Software images	Use this method when the switch cannot correctly start up. **CAUTION:** Upgrading an IRF fabric from the CLI instead of the Boot menu. The Boot menu method increases the service downtime, because it requires that you upgrade the member switches one by one.

The output in this document is for illustration only and might vary with software releases. This document uses boot.bin and system.bin to represent boot and system image names. The actual software image name format is *chassis-model_Comware-version_image-type_release*, for example, 1950-CMW710-BOOT-R3113P02.bin and 1950-CMW710-SYSTEM-R3113P02.bin.

Upgrading from the CLI

Loading Software Using TFTP

You can remotely download Boot ROM and system software images from a TFTP server at the CLI as follows.

Step 1: Configure an IP address for the switch

```
<HPE>ipsetup ip-address 100.1.1.12 24
```

Step 2: Download the system software image file from the TFTP server.

```
<HPE>upgrade 100.1.1.10 runtime file 1950.ipe
The file flash:/1950.ipe already exists.Overwrite?[Y/N]y
Verifying server file...
Downloading file 1950.ipe from remote TFTP server, please wait...
...Done.
Verifying the file flash:/1950.ipe on slot 1......Done.
HPE 1950-48G-2SFP+-2XGT images in IPE:
  1950-cmw710-boot-r3109p05.bin
  1950-cmw710-system-r3109p05.bin
This command will set the main startup software images. Continue? [Y/N]:y
Add images to slot 1.
File flash:/1950-cmw710-boot-r3109p05.bin already exists on slot 1.
File flash:/1950-cmw710-system-r3109p05.bin already exists on slot 1.
Overwrite the existing files? [Y/N]:y
Decompressing file 1950-cmw710-boot-r3109p05.bin to flash:/1950-cmw710-boot-r3109p05.b
in.........Done.
Decompressing file 1950-cmw710-system-r3109p05.bin to
flash:/1950-cmw710-system-r3109p05.bin.....................................
.........Done.
Verifying the file flash:/1950-cmw710-boot-r3109p05.bin on slot 1...Done.
Verifying the file flash:/1950-cmw710-system-r3109p05.bin on slot 1.....Done.
The images that have passed all examinations will be used as the main startup so
ftware images at the next reboot on slot 1.
Decompression completed.
Do you want to delete flash:/1950.ipe now? [Y/N]:y
```

Step 3: Download and load the Boot ROM file.

```
<HPE>upgrade 100.1.1.10 bootrom 1950-cmw710-boot-r3109p05.bin
Verifying server file...
```

```
Downloading file 1950-cmw710-boot-r3109p05.bin from remote TFTP server, please
 wait.....................................................................Done.
This command will upgrade the Boot ROM file on the specified board(s), Continue?
 [Y/N]:y
Now upgrading the Boot ROM of slot 1, please wait...
.......Done.
```

Step 4: Reboot the device to validate the new system software.

```
<HPE> reboot
```

Note that if flash memory is insufficient, load the Boot ROM image first and delete useless files to free up Flash memory before you load the system software image.

Upgrading from the Boot menu

In this approach, you must access the Boot menu of each member switch to upgrade their software one by one. If you are upgrading software images for an IRF fabric, using the CLI is a better choice.

TIP:
Upgrading through the Ethernet port is faster than through the console port.

Prerequisites

Make sure the prerequisites are met before you start upgrading software from the Boot menu.

Setting up the upgrade environment

1. Use a console cable to connect the console terminal (for example, a PC) to the console port on the switch.
2. Connect the Ethernet port on the switch to the file server.

   NOTE:
   The file server and the configuration terminal can be co-located.

3. Run a terminal emulator program on the console terminal and set the following terminal settings:
   - **Bits per second**—38,400
   - **Data bits**—8
   - **Parity**—None
   - **Stop bits**—1
   - **Flow control**—None
   - **Emulation**—VT100

Preparing for the TFTP or FTP transfer

To use TFTP or FTP:

- Run a TFTP or FTP server program on the file server or the console terminal.
- Copy the upgrade file to the file server.
- Correctly set the working directory on the TFTP or FTP server.
- Make sure the file server and the switch can reach each other.

Verifying that sufficient storage space is available

IMPORTANT:
For the switch to start up correctly, do not delete the main startup software images when you free storage space before upgrading Boot ROM. On the Boot menu, the main startup software images are marked with an asterisk (*).

When you upgrade software, make sure each member switch has sufficient free storage space for the upgrade file, as shown in Table 7.

Table 7 Minimum free storage space requirements

Upgraded images	Minimum free storage space requirements
Comware images	Two times the size of the Comware upgrade package file.
Boot ROM	Same size as the Boot ROM upgrade image file.

If no sufficient space is available, delete unused files as described in "Managing files from the Boot menu."

Scheduling the upgrade time

During the upgrade, the switch cannot provide any services. You must make sure the upgrade has a minimal impact on the network services.

Accessing the Boot menu

```
Starting......
Press Ctrl+D to access BASIC BOOT MENU

********************************************************************************
*                                                                              *
*               HPE 1950-24G-2SFP+-2XGT Switch BOOTROM, Version 143            *
*                                                                              *
********************************************************************************
Copyright (c) 2010-2016 Hewlett-Packard Development Company, L.P.

Creation Date       : Dec  2 2016, 14:00:56
CPU Clock Speed     : 400MHz
Memory Size         : 1024MB
```

```
Flash Size          : 512MB
CPLD Version        : 001
PCB Version         : Ver.B
Mac Address         : 00e0fc035100

Press Ctrl+B to access EXTENDED BOOT MENU...0
```

Press one of the shortcut key combinations at prompt.

Table 8 Shortcut keys

Shortcut keys	Prompt message	Function	Remarks
Ctrl+B	Press Ctrl+B to enter Extended Boot menu...	Accesses the extended Boot menu.	Press the keys within 1 second (in fast startup mode) or 5 seconds (in full startup mode) after the message appears. You can upgrade and manage system software and Boot ROM from this menu.
Ctrl+D	Press Ctrl+D to access BASIC BOOT MENU	Accesses the basic Boot menu.	Press the keys within 1 seconds after the message appears. You can upgrade Boot ROM or access the extended Boot ROM segment from this menu.

Accessing the basic Boot menu

If the extended Boot ROM segment has corrupted, you can repair or upgrade it from the basic Boot menu.

Press **Ctrl+D** within 1 seconds after the "Press Ctrl+D to access BASIC BOOT MENU" prompt message appears. If you fail to do this within the time limit, the system starts to run the extended Boot ROM segment.

```
********************************************************************************
*                                                                              *
*                          BASIC BOOTROM, Version 112                          *
*                                                                              *
********************************************************************************

   BASIC BOOT MENU

1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
4. Boot extended BootRom
0. Reboot
```

```
Ctrl+U: Access BASIC ASSISTANT MENU

Enter your choice(0-4):
```

Table 9 Basic Boot ROM menu options

Option	Task
1. Update full BootRom	Update the entire Boot ROM, including the basic segment and the extended segment. To do so, you must use XMODEM and the console port. For more information, see Using XMODEM to upgrade Boot ROM through the console port.
2. Update extended BootRom	Update the extended Boot ROM segment. To do so, you must use XMODEM and the console port. For more information, see Using XMODEM to upgrade Boot ROM through the console port.
3. Update basic BootRom	Update the basic Boot ROM segment. To do so, you must use XMODEM and the console port. For more information, see Using XMODEM to upgrade Boot ROM through the console port.
4. Boot extended BootRom	Access the extended Boot ROM segment. For more information, see Accessing the extended Boot menu.
0. Reboot	Reboot the switch.
Ctrl+U: Access BASIC ASSISTANT MENU	Press **Ctrl + U** to access the BASIC ASSISTANT menu (see Table 10).

Table 10 BASIC ASSISTANT menu options

Option	Task
1. RAM Test	Perform a RAM self-test.
0. Return to boot menu	Return to the basic Boot menu.

Accessing the extended Boot menu

Press **Ctrl+B** within 1 second (in fast startup mode) or 5 seconds (in full startup mode) after the "Press Ctrl-B to enter Extended Boot menu..." prompt message appears. If you fail to do this, the system starts decompressing the system software.

Alternatively, you can enter **4** in the basic Boot menu to access the extended Boot menu.

The "Password recovery capability is enabled." or "Password recovery capability is disabled." message appears, followed by the extended Boot menu. Availability of some menu options depends on the state of password recovery capability (see Table 11). For more information about password recovery capability, see *Fundamentals Configuration Guide* in *HPE 1950 Switch Series Configuration Guides*.

```
Password recovery capability is enabled.

   EXTENDED BOOT MENU
```

```
1. Download image to flash
2. Select image to boot
3. Display all files in flash
4. Delete file from flash
5. Restore to factory default configuration
6. Enter BootRom upgrade menu
7. Skip current system configuration
8. Set switch startup mode
0. Reboot
Ctrl+Z: Access EXTENDED ASSISTANT MENU
Ctrl+F: Format file system
Ctrl+P: Change authentication for console login
Ctrl+R: Download image to SDRAM and run

Enter your choice(0-8):
```

Table 11 Extended Boot ROM menu options

Option	Tasks
1. Download image to flash	Download a software image file to the flash.
2. Select image to boot	• Specify the main and backup software image file for the next startup. • Specify the main and backup configuration files for the next startup. This task can be performed only if password recovery capability is enabled.
3. Display all files in flash	Display files on the flash.
4. Delete file from flash	Delete files to free storage space.
5. Restore to factory default configuration	Delete the current next-startup configuration files and restore the factory-default configuration. This option is available only if password recovery capability is disabled.
6. Enter BootRom upgrade menu	Access the Boot ROM upgrade menu.
7. Skip current system configuration	Start the switch without loading any configuration file. This is a one-time operation and takes effect only for the first system boot or reboot after you choose this option. This option is available only if password recovery capability is enabled.
8. Set switch startup mode	Set the startup mode to fast startup mode or full startup mode.
0. Reboot	Reboot the switch.
Ctrl+F: Format file system	Format the current storage medium.
Ctrl+P: Change authentication for console login	Skip the authentication for console login. This is a one-time operation and takes effect only for the first system boot or reboot after you choose this option. This option is available only if password recovery capability is enabled.
Ctrl+R: Download image to SDRAM and run	Download a system software image and start the switch with the image. This option is available only if password recovery capability is enabled.

Option	Tasks
Ctrl+Z: Access EXTENDED ASSISTANT MENU	Access the EXTENDED ASSISTANT MENU. For options in the menu, see Table 12.

Table 12 EXTENDED ASSISTANT menu options

Option	Task
1. Display Memory	Display data in the memory.
2. Search Memory	Search the memory for a specific data segment.
0. Return to boot menu	Return to the extended Boot ROM menu.

Upgrading Comware images from the Boot menu

You can use the following methods to upgrade Comware images:

- Using TFTP to upgrade software images through the Ethernet port
- Using FTP to upgrade software images through the Ethernet port
- Using XMODEM to upgrade software through the console port

Using TFTP to upgrade software images through the Ethernet port

1. Enter **1** in the Boot menu to access the file transfer protocol submenu.

```
1. Set TFTP protocol parameters
2. Set FTP protocol parameters
3. Set XMODEM protocol parameters
0. Return to boot menu

Enter your choice(0-3):
```

2. Enter **1** to set the TFTP parameters.

```
Load File Name      :update.ipe
Server IP Address   :192.168.0.3
Local IP Address    :192.168.0.2
Subnet Mask         :255.255.255.0
Gateway IP Address  :0.0.0.0
```

Table 13 TFTP parameter description

Item	Description
Load File Name	Name of the file to download (for example, **update.ipe**).
Server IP Address	IP address of the TFTP server (for example, 192.168.0.3).
Local IP Address	IP address of the switch (for example, 192.168.0.2).
Subnet Mask	Subnet mask of the switch (for example, 255.255.255.0).
Gateway IP Address	IP address of the gateway (in this example, no gateway is required because the server and the switch are on the same subnet).

NOTE:

- To use the default setting for a field, press **Enter** without entering any value.
- If the switch and the server are on different subnets, you must specify a gateway address for the switch.

3. Enter all required parameters, and enter **Y** to confirm the settings. The following prompt appears:

```
Are you sure to download file to flash? Yes or No (Y/N):Y
```

4. Enter **Y** to start downloading the image file. To return to the Boot menu without downloading the upgrade file, enter **N**.

```
Loading.....................................................................
.....................................................................
.....................................................................
.....................................................Done!
```

5. Enter the **M** (main), **B** (backup), or **N** (none) attribute for the images. In this example, assign the main attribute to the images.

```
Please input the file attribute (Main/Backup/None) M
Image file boot.bin is self-decompressing...
Free space: 534980608 bytes
Writing flash.....................................................................
.....................................................................
.....................................................Done!
Image file system.bin is self-decompressing...
Free space: 525981696 bytes
Writing flash.....................................................................
.....................................................................
.....................................................................
.....................................................................
.....................................................................
.....................................................................
.....................................................Done!
```

NOTE:

- The switch always attempts to boot with the main images first. If the attempt fails, for example, because the main images are not available, the switch tries to boot with the backup images. An image with the none attribute is only stored in flash memory for backup. To use it at reboot, you must change its attribute to main or backup.
- If an image with the same attribute as the image you are loading is already in the flash memory, the attribute of the old image changes to none after the new image becomes valid.

6. Enter **0** in the Boot menu to reboot the switch with the new software images.

```
   EXTENDED BOOT MENU


1. Download image to flash
2. Select image to boot
3. Display all files in flash
4. Delete file from flash
```

```
5. Restore to factory default configuration
6. Enter BootRom upgrade menu
7. Skip current system configuration
8. Set switch startup mode
0. Reboot
Ctrl+Z: Access EXTENDED ASSISTANT MENU
Ctrl+F: Format file system
Ctrl+P: Change authentication for console login
Ctrl+R: Download image to SDRAM and run

Enter your choice(0-8): 0
```

Using FTP to upgrade software images through the Ethernet port

1. Enter **1** in the Boot menu to access the file transfer protocol submenu.

```
1. Set TFTP protocol parameters
2. Set FTP protocol parameters
3. Set XMODEM protocol parameters
0. Return to boot menu

Enter your choice(0-3):
```

2. Enter **2** to set the FTP parameters.

```
Load File Name      :update.ipe
Server IP Address   :192.168.0.3
Local IP Address    :192.168.0.2
Subnet Mask         :255.255.255.0
Gateway IP Address  :0.0.0.0
FTP User Name       :switch
FTP User Password   :***
```

Table 14 FTP parameter description

Item	Description
Load File Name	Name of the file to download (for example, **update.ipe**).
Server IP Address	IP address of the FTP server (for example, 192.168.0.3).
Local IP Address	IP address of the switch (for example, 192.168.0.2).
Subnet Mask	Subnet mask of the switch (for example, 255.255.255.0).
Gateway IP Address	IP address of the gateway (in this example, no gateway is required because the server and the switch are on the same subnet).
FTP User Name	Username for accessing the FTP server, which must be the same as configured on the FTP server.
FTP User Password	Password for accessing the FTP server, which must be the same as configured on the FTP server.

NOTE:

- To use the default setting for a field, press **Enter** without entering any value.
- If the switch and the server are on different subnets, you must specify a gateway address for the switch.

3. Enter all required parameters, and enter **Y** to confirm the settings. The following prompt appears:

```
Are you sure to download file to flash? Yes or No (Y/N):Y
```

4. Enter **Y** to start downloading the image file. To return to the Boot menu without downloading the upgrade file, enter **N**.

```
Loading.....................................................................
.....................................................................
.....................................................................
.....................................................Done!
```

5. Enter the **M** (main), **B** (backup), or **N** (none) attribute for the images. In this example, assign the main attribute to the images.

```
Please input the file attribute (Main/Backup/None) M
Image file boot.bin is self-decompressing...
Free space: 534980608 bytes
Writing flash.....................................................................
.....................................................................
.....................................................Done!
Image file system.bin is self-decompressing...
Free space: 525981696 bytes
Writing flash.....................................................................
.....................................................................
.....................................................................
.....................................................................
.....................................................................
.....................................................................
.....................................................Done!

   EXTENDED BOOT MENU

1. Download image to flash
2. Select image to boot
3. Display all files in flash
4. Delete file from flash
5. Restore to factory default configuration
6. Enter BootRom upgrade menu
7. Skip current system configuration
8. Set switch startup mode
0. Reboot
Ctrl+Z: Access EXTENDED ASSISTANT MENU
Ctrl+F: Format file system
Ctrl+P: Change authentication for console login
Ctrl+R: Download image to SDRAM and run

Enter your choice(0-8):0
```

NOTE:

- The switch always attempts to boot with the main images first. If the attempt fails, for example, because the main images not available, the switch tries to boot with the backup images. An image with the none attribute is only stored in flash memory for backup. To use it at reboot, you must change its attribute to main or backup.
- If an image with the same attribute as the image you are loading is already in the flash memory, the attribute of the old image changes to none after the new image becomes valid.

6. Enter **0** in the Boot menu to reboot the switch with the new software images.

Using XMODEM to upgrade software through the console port

XMODEM download through the console port is slower than TFTP or FTP download through the Ethernet port. To save time, use the Ethernet port as long as possible.

1. Enter **1** in the Boot menu to access the file transfer protocol submenu.

```
1. Set TFTP protocol parameters
2. Set FTP protocol parameters
3. Set XMODEM protocol parameters
0. Return to boot menu

Enter your choice(0-3):
```

2. Enter **3** to set the XMODEM download baud rate.

```
Please select your download baudrate:
1.  9600
2.  19200
3.* 38400
4.  57600
5.  115200
0.  Return to boot menu

Enter your choice(0-5):5
```

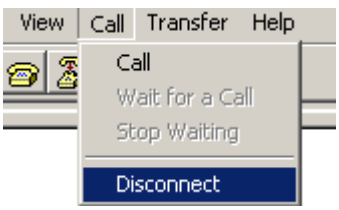
3. Select an appropriate download rate, for example, enter **5** to select 115200 bps.

```
Download baudrate is 115200 bps
Please change the terminal's baudrate to 115200 bps and select XMODEM protocol
Press enter key when ready
```

4. Set the serial port on the terminal to use the same baud rate and protocol as the console port. If you select 38400bps as the download rate for the console port, skip this task.

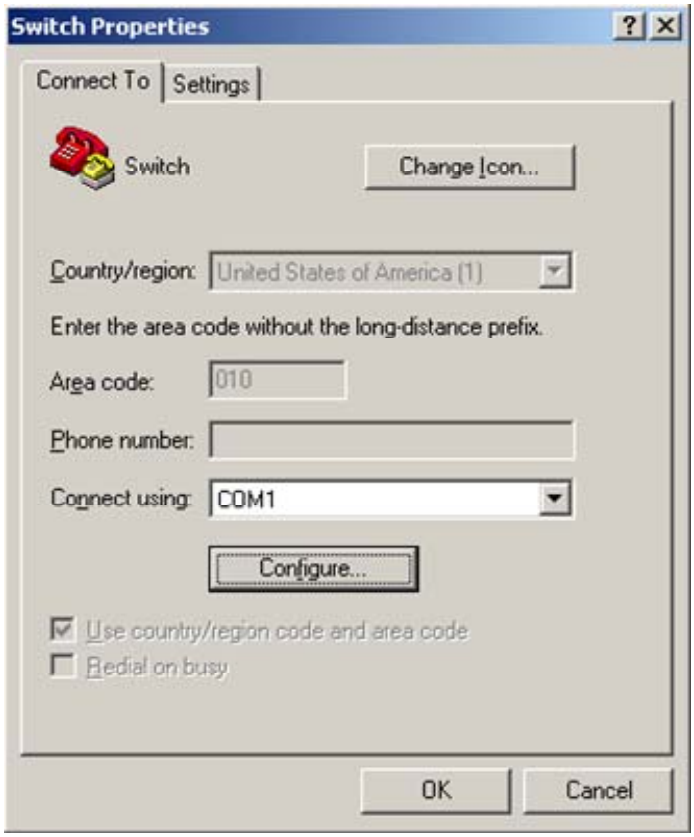
   a. Select **Call** > **Disconnect** in the HyperTerminal window to disconnect the terminal from the switch.

Figure 2 Disconnecting the terminal from the switch



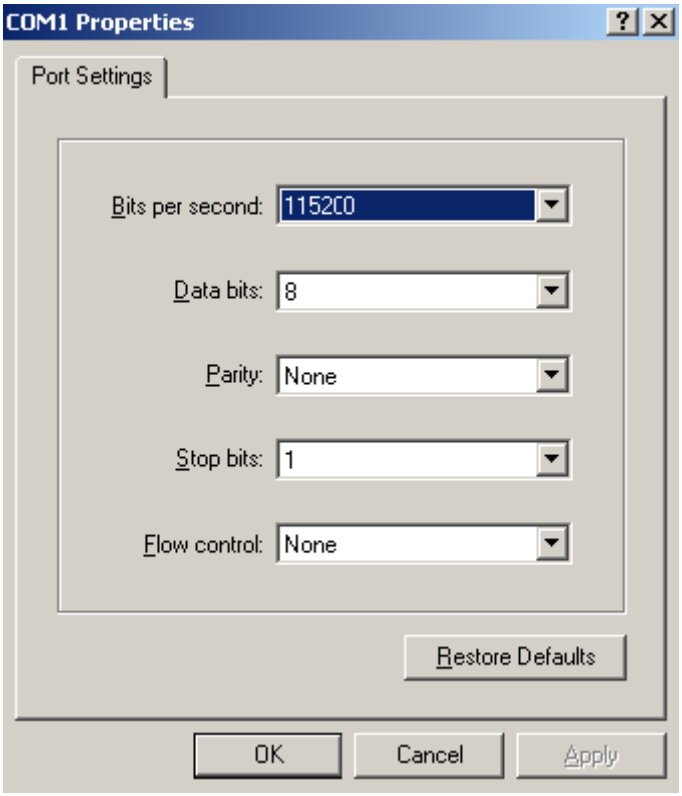
b. Select **File** > **Properties**, and in the **Properties** dialog box, click **Configure**.

Figure 3 Properties dialog box



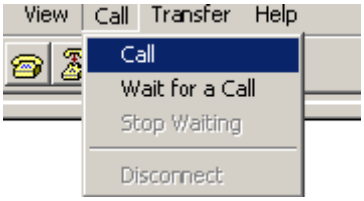
c. Select **115200** from the **Bits per second** list and click **OK**.

Figure 4 Modifying the baud rate



d. Select **Call** > **Call** to reestablish the connection.

Figure 5 Reestablishing the connection



5. Press **Enter**. The following prompt appears:

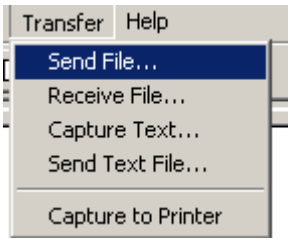
```
Are you sure to download file to flash? Yes or No (Y/N):Y
```

6. Enter **Y** to start downloading the file. (To return to the Boot menu, enter **N**.)

```
Now please start transfer file with XMODEM protocol
If you want to exit, Press <Ctrl+X>
Loading ...CCCCCCCCCCCCCCCCCCCCCCCC
```

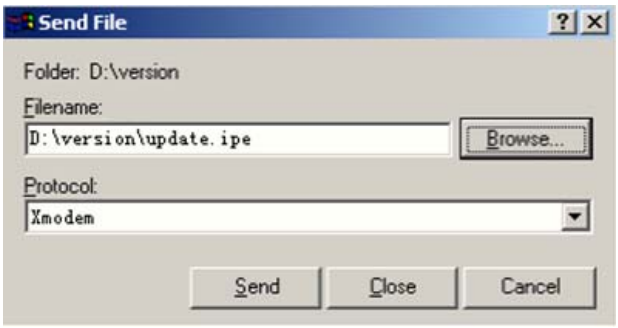
7. Select **Transfer** > **Send File** in the HyperTerminal window.

Figure 6 Transfer menu



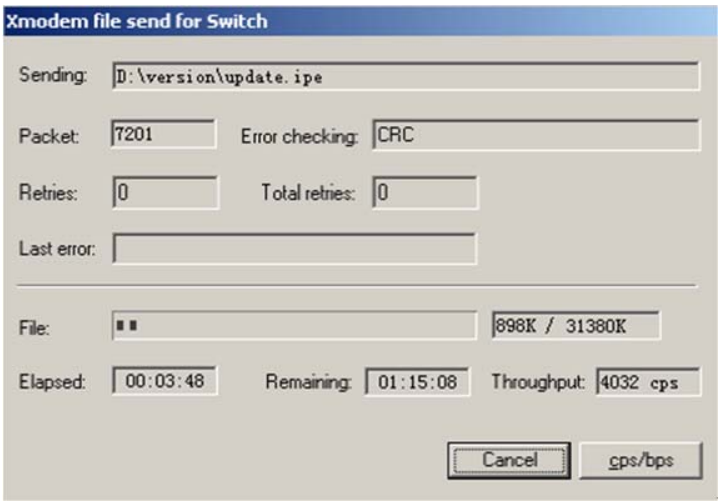
8. In the dialog box that appears, click **Browse** to select the source file, and select **Xmodem** from the **Protocol** list.

Figure 7 File transmission dialog box



9. Click **Send**. The following dialog box appears:

Figure 8 File transfer progress



10. Enter the **M** (main), **B** (backup), or **N** (none) attribute for the images. In this example, assign the main attribute to the images.

```
Please input the file attribute (Main/Backup/None) m
The boot.bin image is self-decompressing...
```

At the **Load File name** prompt, enter a name for the boot image to be saved to flash memory.

```
Load File name  : default_file boot-update.bin       (At the prompt,
```

```
Free space: 470519808 bytes
Writing flash.....................................................................
.............Done!
The system-update.bin image is self-decompressing...
```

At the **Load File name** prompt, enter a name for the system image to be saved to flash memory.

```
Load File name  : default_file system-update.bin
Free space: 461522944 bytes
Writing flash.....................................................................
.............Done!
Your baudrate should be set to 38400 bps again!
Press enter key when ready
```

NOTE:

- The switch always attempts to boot with the main images first. If the attempt fails, for example, because the main images not available, the switch tries to boot with the backup images. An image with the none attribute is only stored in the flash memory for backup. To use it at reboot, you must change its attribute to main or backup.
- If an image with the same attribute as the image you are loading is already in flash memory, the attribute of the old image changes to none after the new image becomes valid.

11. If the baud rate of the HyperTerminal is not 38400bps, restore it to 38400bps as described in step 5.a. If the baud rate is 38400bps, skip this step.

NOTE:

The console port rate reverts to 38400bps at a reboot. If you have changed the baud rate, you must perform this step so you can access the switch through the console port after a reboot.

```
   EXTENDED BOOT MENU

1. Download image to flash
2. Select image to boot
3. Display all files in flash
4. Delete file from flash
5. Restore to factory default configuration
6. Enter BootRom upgrade menu
7. Skip current system configuration
8. Set switch startup mode
0. Reboot
Ctrl+Z: Access EXTENDED ASSISTANT MENU
Ctrl+F: Format file system
Ctrl+P: Change authentication for console login
Ctrl+R: Download image to SDRAM and run

Enter your choice(0-8): 0
```

12. Enter **0** in the Boot menu to reboot the system with the new software images.

Upgrading Boot ROM from the Boot menu

You can use the following methods to upgrade the Boot ROM image:

- Using TFTP to upgrade Boot ROM through the Ethernet port
- Using FTP to upgrade Boot ROM through the Ethernet port
- Using XMODEM to upgrade Boot ROM through the console port

Using TFTP to upgrade Boot ROM through the Ethernet port

1. Enter **6** in the Boot menu to access the Boot ROM update menu.

```
1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
0. Return to boot menu

Enter your choice(0-3):
```

2. Enter **1** in the Boot ROM update menu to upgrade the full Boot ROM.

   The file transfer protocol submenu appears:

```
1. Set TFTP protocol parameters
2. Set FTP protocol parameters
3. Set XMODEM protocol parameters
0. Return to boot menu

Enter your choice(0-3):
```

3. Enter **1** to set the TFTP parameters.

```
Load File Name      :update.btm
Server IP Address   :192.168.0.3
Local IP Address    :192.168.0.2
Subnet Mask         :255.255.255.0
Gateway IP Address  :0.0.0.0
```

Table 15 TFTP parameter description

Item	Description
Load File Name	Name of the file to download (for example, **update.btm**).
Server IP Address	IP address of the TFTP server (for example, 192.168.0.3).
Local IP Address	IP address of the switch (for example, 192.168.0.2).
Subnet Mask	Subnet mask of the switch (for example, 255.255.255.0).
Gateway IP Address	IP address of the gateway (in this example, no gateway is required because the server and the switch are on the same subnet).

NOTE:

- To use the default setting for a field, press **Enter** without entering any value.
- If the switch and the server are on different subnets, you must specify a gateway address for the switch.

4. Enter all required parameters and press **Enter** to start downloading the file.

```
Loading.............................................Done!
```

5. Enter **Y** at the prompt to upgrade the basic Boot ROM section.

```
Will you Update Basic BootRom? (Y/N):Y
Updating Basic BootRom..........Done.
```

6. Enter **Y** at the prompt to upgrade the extended Boot ROM section.

```
Updating extended BootRom? (Y/N):Y
Updating extended BootRom.........Done.
```

7. Enter **0** in the Boot ROM update menu to return to the Boot menu.

```
1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
0. Return to boot menu

Enter your choice(0-3):
```

8. Enter **0** in the Boot menu to reboot the switch with the new Boot ROM image.

Using FTP to upgrade Boot ROM through the Ethernet port

1. Enter **6** in the Boot menu to access the Boot ROM update menu.

```
1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
0. Return to boot menu

Enter your choice(0-3):
```

2. Enter **1** in the Boot ROM update menu to upgrade the full Boot ROM.

   The file transfer protocol submenu appears:

```
1. Set TFTP protocol parameters
2. Set FTP protocol parameters
3. Set XMODEM protocol parameters
0. Return to boot menu

Enter your choice(0-3):
```

3. Enter **2** to set the FTP parameters.

```
Load File Name     :update.btm
Server IP Address  :192.168.0.3
Local IP Address   :192.168.0.2
Subnet Mask        :255.255.255.0
Gateway IP Address :0.0.0.0
FTP User Name      :switch
FTP User Password  :123
```

Table 16 FTP parameter description

Item	Description
Load File Name	Name of the file to download (for example, **update.btm**).
Server IP Address	IP address of the FTP server (for example, 192.168.0.3).
Local IP Address	IP address of the switch (for example, 192.168.0.2).
Subnet Mask	Subnet mask of the switch (for example, 255.255.255.0).
Gateway IP Address	IP address of the gateway (in this example, no gateway is required because the server and the switch are on the same subnet).
FTP User Name	Username for accessing the FTP server, which must be the same as configured on the FTP server.
FTP User Password	Password for accessing the FTP server, which must be the same as configured on the FTP server.

NOTE:

- To use the default setting for a field, press **Enter** without entering any value.
- If the switch and the server are on different subnets, you must specify a gateway address for the switch.

4. Enter all required parameters and press **Enter** to start downloading the file.

```
Loading.............................................Done!
```

5. Enter **Y** at the prompt to upgrade the basic Boot ROM section.

```
Will you Update Basic BootRom? (Y/N):Y
Updating Basic BootRom..........Done.
```

6. Enter **Y** at the prompt to upgrade the extended Boot ROM section.

```
Updating extended BootRom? (Y/N):Y
Updating extended BootRom.........Done.
```

7. Enter **0** in the Boot ROM update menu to return to the Boot menu.

```
1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
0. Return to boot menu

Enter your choice(0-3):
```

8. Enter **0** in the Boot menu to reboot the switch with the new Boot ROM image.

Using XMODEM to upgrade Boot ROM through the console port

XMODEM download through the console port is slower than TFTP or FTP download through the Ethernet port. To save time, use the Ethernet port as long as possible.

1. Enter **6** in the Boot menu to access the Boot ROM update menu.

```
1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
0. Return to boot menu
```

```
Enter your choice(0-3):
```

2. Enter **1** in the Boot ROM update menu to upgrade the full Boot ROM.

   The file transfer protocol submenu appears:

```
1. Set TFTP protocol parameters
2. Set FTP protocol parameters
3. Set XMODEM protocol parameters
0. Return to boot menu

Enter your choice(0-3):
```

3. Enter **3** to set the XMODEM download baud rate.

```
Please select your download baudrate:
1.  9600
2.  19200
3.* 38400
4.  57600
5.  115200
0.  Return to boot menu

Enter your choice(0-5):5
```

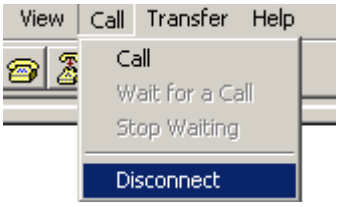
4. Select an appropriate download rate, for example, enter **5** to select 115200 bps.

```
Download baudrate is 115200 bps
Please change the terminal's baudrate to 115200 bps and select XMODEM protocol
Press enter key when ready
```

5. Set the serial port on the terminal to use the same baud rate and protocol as the console port. If you select 38400bps as the download rate for the console port, skip this task.

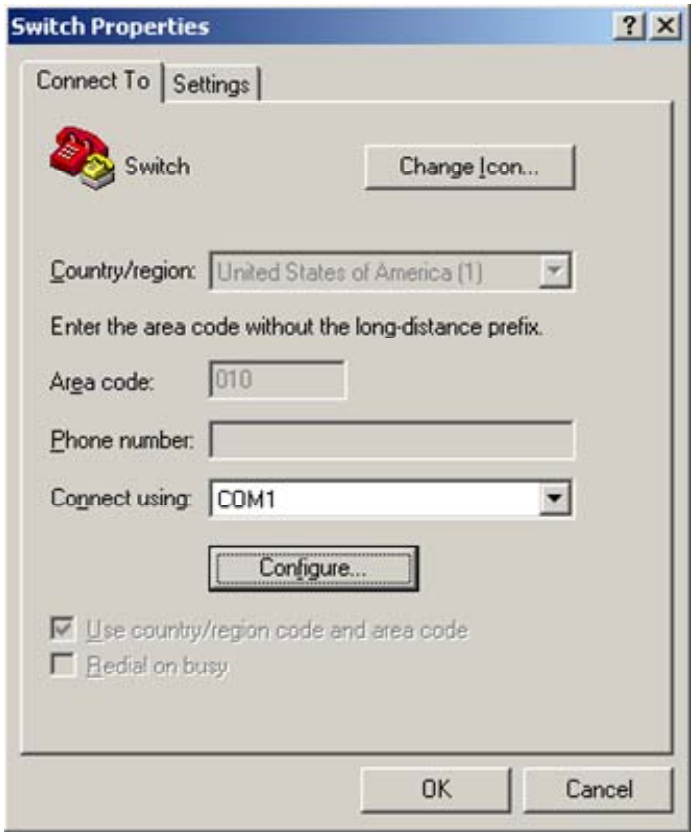
   a. Select **Call** > **Disconnect** in the HyperTerminal window to disconnect the terminal from the switch.

Figure 9 Disconnecting the terminal from the switch



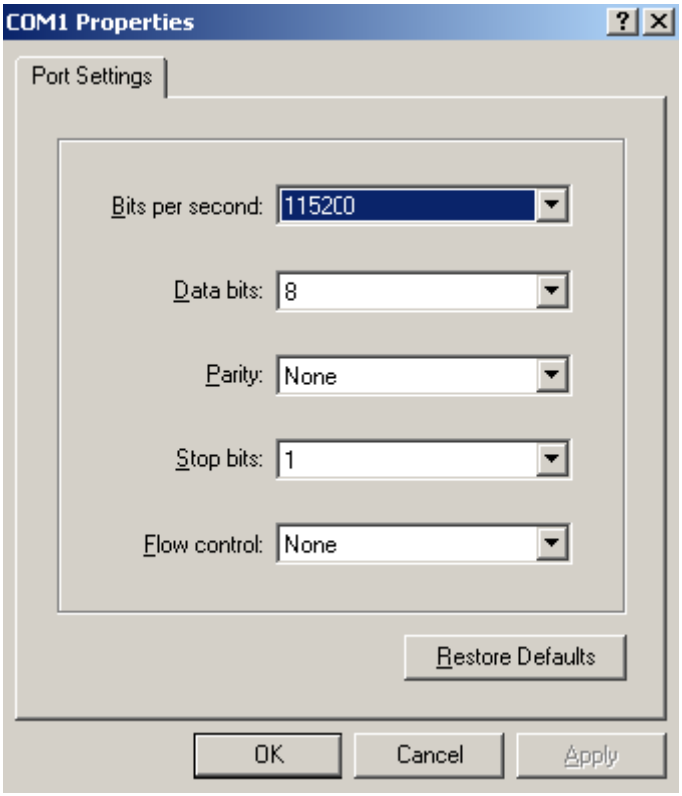
   b. Select **File** > **Properties**, and in the **Properties** dialog box, click **Configure**.

Figure 10 Properties dialog box



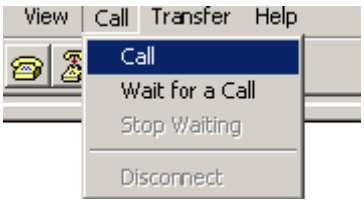
c. Select **115200** from the **Bits per second** list and click **OK**.

Figure 11 Modifying the baud rate



d. Select **Call** > **Call** to reestablish the connection.

Figure 12 Reestablishing the connection

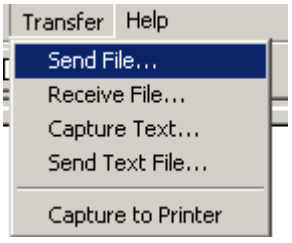


6. Press **Enter** to start downloading the file.

```
Now please start transfer file with XMODEM protocol
If you want to exit, Press <Ctrl+X>
Loading ...CCCCCCCCCCCCCCCCCCCCCCCC
```

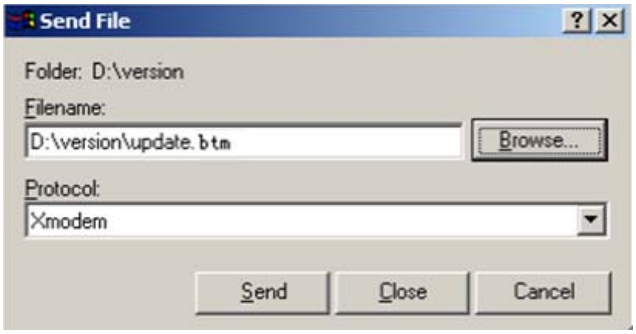
7. Select **Transfer** > **Send File** in the HyperTerminal window.

Figure 13 Transfer menu



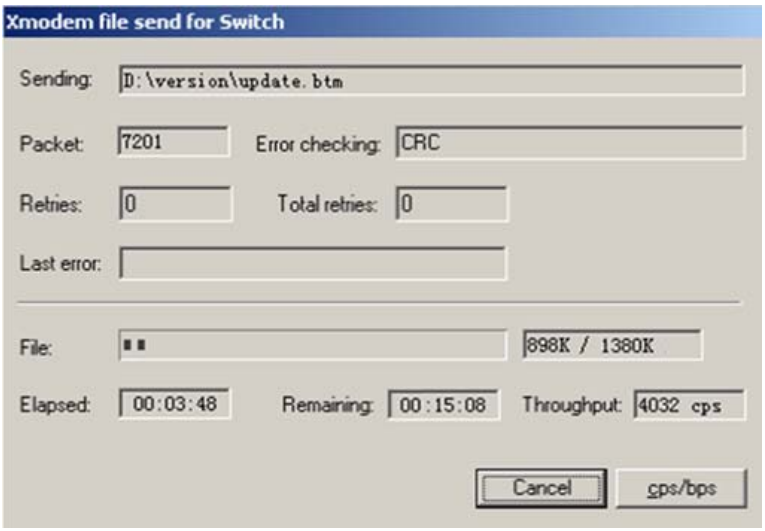
8. In the dialog box that appears, click **Browse** to select the source file, and select **Xmodem** from the **Protocol** list.

Figure 14 File transmission dialog box



9. Click **Send**. The following dialog box appears:

Figure 15 File transfer progress



10. Enter **Y** at the prompt to upgrade the basic Boot ROM section.

```
Loading ...CCCCCCCCCCCCC  ...Done!
Will you Update Basic BootRom? (Y/N):Y
Updating Basic BootRom..........Done.
```

11. Enter **Y** at the prompt to upgrade the extended Boot ROM section.

```
Updating extended BootRom? (Y/N):Y
Updating extended BootRom.........Done.
```

12. If the baud rate of the HyperTerminal is not 38400bps, restore it to 38400bps at the prompt, as described in step 4.a. If the baud rate is 38400bps, skip this step.

```
Please change the terminal's baudrate to 38400 bps, press ENTER when ready.
```

NOTE:

The console port rate reverts to 38400bps at a reboot. If you have changed the baud rate, you must perform this step so you can access the switch through the console port after a reboot.

13. Press **Enter** to access the Boot ROM update menu.
14. Enter **0** in the Boot ROM update menu to return to the Boot menu.

```
1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
0. Return to boot menu

Enter your choice(0-3):
```

15. Enter **0** in the Boot menu to reboot the switch with the new Boot ROM image.

Managing files from the Boot menu

From the Boot menu, you can display files in flash memory to check for obsolete files, incorrect files, or space insufficiency, delete files to release storage space, or change the attributes of software images.

Displaying all files

Enter **3** in the Boot menu to display all files in flash memory and identify the free space size.

```
   EXTENDED BOOT MENU

1. Download image to flash
2. Select image to boot
3. Display all files in flash
4. Delete file from flash
5. Restore to factory default configuration
6. Enter BootRom upgrade menu
7. Skip current system configuration
8. Set switch startup mode
0. Reboot
Ctrl+Z: Access EXTENDED ASSISTANT MENU
Ctrl+F: Format file system
Ctrl+P: Change authentication for console login
Ctrl+R: Download image to SDRAM and run

Enter your choice(0-8): 3
```

The following is a sample output:

```
Display all file(s) in flash:

File Number    File Size(bytes)     File Name
================================================================================
1              8177                 flash:/testbackup.cfg
2(*)           53555200             flash:/system.bin
3(*)           9959424              flash:/boot.bin
4              3678                 flash:/startup.cfg_backup
5              30033                flash:/default.mdb
```

```
6               42424               flash:/startup.mdb
7               18                  flash:/.pathfile
8               232311              flash:/logfile/logfile.log
9               5981                flash:/startup.cfg_back
10(*)           6098                flash:/startup.cfg
11              20                  flash:/.snmpboots
Free space: 464298848 bytes
The current image is boot.bin
(*)-with main attribute
(b)-with backup attribute
(*b)-with both main and backup attribute
```

Deleting files

If storage space is insufficient, delete obsolete files to free up storage space.

To delete files:

1. Enter **4** in the Boot menu:

```
Deleting the file in flash:

File Number    File Size(bytes)     File Name
=============================================================================
1               8177                flash:/testbackup.cfg
2(*)            53555200            flash:/system.bin
3(*)            9959424             flash:/boot.bin
4               3678                flash:/startup.cfg_backup
5               30033               flash:/default.mdb
6               42424               flash:/startup.mdb
7               18                  flash:/.pathfile
8               232311              flash:/logfile/logfile.log
9               5981                flash:/startup.cfg_back
10(*)           6098                flash:/startup.cfg
11              20                  flash:/.snmpboots
Free space: 464298848 bytes
The current image is boot.bin
(*)-with main attribute
(b)-with backup attribute
(*b)-with both main and backup attribute
```

2. Enter the number of the file to delete. For example, enter **1** to select the file **testbackup.cfg**.

```
Please input the file number to change: 1
```

3. Enter **Y** at the confirmation prompt.

```
The file you selected is testbackup.cfg,Delete it? (Y/N):Y
Deleting.................................Done!
```

Changing the attribute of software images

Software image attributes include main (M), backup (B), and none (N). System software and boot software can each have multiple none-attribute images but only one main image and one backup image on the switch. You can assign both the M and B attributes to one image. If the M or B attribute

you are assigning has been assigned to another image, the assignment removes the attribute from that image. If the removed attribute is the sole attribute of the image, its attribute changes to N.

For example, the system image **system.bin** has the M attribute and the system image **system-update.bin** has the B attribute. After you assign the M attribute to **system-update.bin**, the attribute of **system-update.bin** changes to M+B and the attribute of **system.bin** changes to N.

To change the attribute of a system or boot image:

1. Enter **2** in the Boot menu.

```
   EXTENDED BOOT MENU

1. Download image to flash
2. Select image to boot
3. Display all files in flash
4. Delete file from flash
5. Restore to factory default configuration
6. Enter BootRom upgrade menu
7. Skip current system configuration
8. Set switch startup mode
0. Reboot
Ctrl+Z: Access EXTENDED ASSISTANT MENU
Ctrl+F: Format file system
Ctrl+P: Change authentication for console login
Ctrl+R: Download image to SDRAM and run

Enter your choice(0-8): 2
```

2. **1** or **2** at the prompt to set the attribute of a software image. (The following output is based on the option **2**. To set the attribute of a configuration file, enter **3**.)

```
1. Set image file
2. Set bin file
3. Set configuration file
0. Return to boot menu

Enter your choice(0-3): 2

File Number    File Size(bytes)     File Name
============================================================================

1(*)              53555200              flash:/system.bin
2(*)              9959424               flash:/boot.bin
3                 13105152              flash:/boot-update.bin
4                 91273216              flash:/system-update.bin
Free space: 417177920 bytes
(*)-with main attribute
(b)-with backup attribute
(*b)-with both main and backup attribute
Note:Select .bin files. One but only one boot image and system image must be included.
```

3. Enter the number of the file you are working with. For example, enter 3 to select the boot image **boot-update.bin**. and enter **4** to select the system image **system-update.bin**.

```
Enter file No.(Allows multiple selection):3
Enter another file No.(0-Finish choice):4
```

4. Enter **0** to finish the selection.

```
Enter another file No.(0-Finish choice):0
You have selected:
flash:/boot-update.bin
flash:/system-update.bin
```

5. Enter **M** or **B** to change its attribute to main or backup. If you change its attribute to M, the attribute of **boot.bin** changes to none.

```
Please input the file attribute (Main/Backup) M
This operation may take several minutes. Please wait....
Next time, boot-update.bin will become default boot file!
Next time, system-update.bin will become default boot file!
Set the file attribute success!
```

Handling software upgrade failures

If a software upgrade fails, the system runs the old software version.

To handle a software upgrade failure:

1. Verify that the software release is compatible with the switch model and the correct file is used.
2. Verify that the software release and the Boot ROM release are compatible. For software and Boot ROM compatibility, see the hardware and software compatibility matrix in the correct release notes.
3. Check the physical ports for a loose or incorrect connection.
4. If you are using the console port for file transfer, check the HyperTerminal settings (including the baud rate and data bits) for any wrong setting.
5. Check the file transfer settings:
   - If XMODEM is used, you must set the same baud rate for the terminal as for the console port.
   - If TFTP is used, you must enter the same server IP addresses, file name, and working directory as set on the TFTP server.
   - If FTP is used, you must enter the same FTP server IP address, source file name, working directory, and FTP username and password as set on the FTP server.
6. Check the FTP or TFTP server for any incorrect setting.
7. Check that the storage device has sufficient space for the upgrade file.

Hewlett Packard Enterprise

HPE 1950-CMW710-R3115P01 Release Notes

Software Feature Changes

Contents

Release 3115P01

None.

Release 3115

None.

Release 3113P05

None.

Release 3113P03

None.

Release 3113P02

None.

Release 3112

This release has the following changes:

- New feature: SSH
- New feature: Configuration import and export
- Modified feature: Transceiver module source alarm

New feature: SSH

Overview

Secure Shell (SSH) is a network security protocol. Using encryption and authentication, SSH can implement secure remote access and file transfer over an insecure network.

SSH uses the typical client-server model to establish a channel for secure data transfer based on TCP.

The device can act as an SSH server and provide the following services for SSH clients:

- Secure Telnet-Stelnet provides secure and reliable network terminal access services.
- Secure FTP-SFTP uses SSH connections to provide secure file transfer based on SSH2.
- Secure Copy-SCP offers a secure method to copy files based on SSH2.

SSH includes two versions: SSH1.x and SSH2.0 (hereinafter referred to as SSH1 and SSH2), which are not compatible. SSH2 provides better performance and security than SSH1. In non-FIPS mode, the device that acts as an SSH server supports both SSH2 and SSH1. In FIPS mode, it supports only SSH2.

When the device acts as an SSH server, it supports using local password authentication to examine the validity of the username and password of an SSH client. After the SSH client passes the authentication, the two parties establish a session for data exchange.

Generic SSH server configuration procedure

When the device acts as an SSH server, perform the following tasks on the device:

- Generate local DSA or RSA key pairs.
- Enable the Stelnet, SFTP, or SCP server function.
- Configure a local user, and assign the user role network-admin and authorize the SSH service to the user.

Restrictions and guidelines

When you configure the device as an SSH server, follow these restrictions and guidelines:

- To support SSH clients that use different types of key pairs, generate both DSA and RSA key pairs on the SSH server.
- SSH supports only locally generated DSA and RSA key pairs with default names.
- The key modulus length must be less than 2048 bits when you generate the DSA key pair on the SSH server.
- The attributes (such as user role or FTP directory) that are assigned to the SSH user depend on the local user configuration on the SSH server.

- All SSH clients can initiate SSH connections to the device when any one of the following conditions exists:
  - You do not specify any ACLs.
  - The specified ACL does not exist.
  - The specified ACL does not have any rules.
- When acting as an SFTP server, the device does not support SFTP connections initiated by SSH1 clients.

New feature: Configuration import and export

This feature allows you to import or export configuration as follows:

- Export the running configuration to a configuration file on the current host.
- Import a configuration file on the current host and specify the configuration file as the next-startup configuration file. You can choose to overwrite the running configuration with the settings in the specified configuration file or not.

Modified feature: Transceiver module source alarm

Feature change description

The default status of the transceiver module source alarm feature changed from enabled to disabled.

Command changes

Modified command: transceiver phony-alarm-disable

Syntax

transceiver phony-alarm-disable

Views

User view

Change description

Before modification: Transceiver module source alarm is enabled by default.

After modification: Transceiver module source alarm is disabled by default.

Release 3111P07

None.

Release 3111P03

New feature: Transceiver module source alarm

Disabling transceiver module source alarm

If you install a transceiver module whose vendor name is not **HPE**, the system repeatedly outputs traps and log messages to notify you to replace the module. If the transceiver module is manufactured or customized by HPE, you can disable transceiver module source alarm so the system stops outputting traps and log messages.

Command reference

Use **transceiver phony-alarm-disable** to disable transceiver module source alarm.

Use **undo transceiver phony-alarm-disable** to restore the default.

transceiver phony-alarm-disable

Syntax

transceiver phony-alarm-disable

undo transceiver phony-alarm-disable

Default

Transceiver module source alarm is enabled.

Views

User view

Predefined user roles

network-admin

Usage guidelines

If you install a transceiver module whose vendor name is not **HPE**, the system repeatedly outputs traps and log messages to notify you to replace the module. If the transceiver module is manufactured or customized by HPE, you can disable transceiver module source alarm so the system stops outputting traps and log messages.

Examples

Disable transceiver module source alarm.

```
<Sysname> transceiver phony-alarm-disable
```

Modified feature: Methods for IRF merge

Feature change description

Before modification: To complete IRF merge, manually reboot the device after the IRF port binding operation.

After modification:

Use one of the following methods to complete IRF merge:

- Click Active IRF Port Configuration. The device automatically reboots to join the IRF fabric.
- Manually reboot the device.

Command changes

N/A

Release 3111P02

None.

Release 3110

This release has the following changes:

- New feature: SNMP
- Modified feature: Applying a QoS policy

New feature: SNMP

Overview

Simple Network Management Protocol (SNMP) is an Internet standard protocol widely used for a network management station (NMS) to access and manage the devices (agents) on a network. After you enable SNMP on the device, the device acts as an SNMP agent.

SNMP enables an NMS to read and set the values of the variables on an agent. The agent sends traps to report events to the NMS.

MIB

Management Information Base (MIB) is a collection of objects. It defines hierarchical relations between objects and object properties, including object name, access privilege, and data type.

An NMS manages a device by reading and setting the values of variables (for example, interface status and CPU usage) on the device. These variables are objects in the MIB.

OID and subtree

A MIB stores variables called "nodes" or "objects" in a tree hierarchy and identifies each node with a unique OID. An OID is a dotted numeric string that uniquely identifies the path from the root node to a leaf node. For example, the object **internet** is uniquely identified by the OID {1.3.6.1}.

A subtree is like a branch in the tree hierarchy. It contains a root node and the lower-level nodes of the root node. A subtree is identified by the OID of the root node.

MIB view

A MIB view is a subset of a MIB. You can control NMS access to MIB objects by specifying a MIB view for the username or community name that the NMS uses. For a subtree included in a MIB view, all nodes in the subtree are accessible to the NMS. For a subtree excluded in a MIB view, all nodes in the subtree are inaccessible to the NMS.

Subtree mask

A subtree mask is in hexadecimal format. It identifies a MIB view collectively with the subtree OID.

To determine whether an MIB object is in a MIB view, convert the subnet mask to binary bits (0 and 1) and match each bit with each node number of the object OID from left to right. If the 1-bit corresponded node numbers of the object OID are the same as those of the subtree OID, the MIB object is in the MIB view. The 0-bit corresponded node numbers can be different from those of the subtree OID.

For example, the view determined by the subtree OID 1.3.6.1.6.1.2.1 and the subtree mask 0xDB (11011011 in binary) includes all the nodes under the subtree OID 1.3.*.1.6.*.2.1, where * represents any number.

NOTE:

- If the number of bits in the subtree mask is greater than the number of nodes of the OID, the

excessive bits of the subtree mask will be ignored during subtree mask-OID matching.

- If the number of bits in the subtree mask is smaller than the number of nodes of the OID, the short bits of the subtree mask will be set to 1 during subtree mask-OID matching.
- If no subtree mask is specified, the default subtree mask (all ones) will be used for mask-OID matching.

SNMP versions

You can enable SNMPv1, SNMPv2c, or SNMPv3 on a device. For an NMS and an agent to communicate, they must run the same SNMP version.

- SNMPv1 and SNMPv2c use community name for authentication. An NMS can access a device only when the NMS and the device use the same community name.
- SNMPv3 uses username for authentication and allows you to configure an authentication key and a privacy key to enhance communication security. The authentication key authenticates the validity of the packet sender. The privacy key is used to encrypt the packets transmitted between the NMS and the device.

SNMP access control

SNMPv1 and SNMPv2 access control

SNMPv1 and SNMPv2 uses community name for authentication. To control NMS access to MIB objects, configure one or both of the following settings on the community name that the NMS uses:

- Specify a MIB view for the community. You can specify only one MIB view for a community.
  - If you grant read-only permission to the community, the NMS can only read the values of the objects in the MIB view.
  - If you grant read-write permission to the community, the NMS can read and set the values of the objects in the MIB view.
- Specify a basic IPv4 ACL or a basic IPv6 ACL for the community to filter illegitimate NMSs from accessing the agent.
  - Only NMSs with the IPv4/IPv6 address permitted in the IPv4/IPv6 ACL can access the SNMP agent.
  - If you do not specify an ACL, or the specified ACL does not exist, all NMSs in the SNMP community can access the SNMP agent. If the specified ACL does not have any rules, no NMS in the SNMP community can access the SNMP agent.

SNMPv3 access control

SNMPv3 uses username for authentication. To control NMS access to MIB objects, configure one or both of the following settings on the username that the NMS uses:

- Create an SNMPv3 group and assign the username to the group. The user has the same access right as the group.

  When you create the group, specify one or more MIB views for the group. The MIB views include read-only MIB view, read-write MIB view, or notify MIB view. You can specify only one MIB view of a type for a group.
  - Read-only MIB view only allows the group to read the values of the objects in the view.
  - Read-write MIB view allows the group to read and set the values of the object in the view.
  - Notify MIB view automatically sends a notification to the NMS when the group accesses the view.
- Specify a basic IPv4 ACL or a basic IPv6 ACL for the user and group, respectively, to filter illegitimate NMSs. Only the NMSs permitted by the ACLs for both the user and group can access the SNMP agent. The following rules apply to the ACLs for the user and group:

- If you do not specify an ACL, the specified ACL does not exist, or the specified ACL does not have any rules, all NMSs that use the username can access the SNMP agent.
- If you have specified an ACL and the ACL has rules, only the NMSs permitted by the ACL can access the agent.

Restrictions and guidelines

An NMS and an agent must use the same SNMP version for communication. If you configure multiple SMNP versions for an agent and NMS, they will negotiate for a version to use.

Modified feature: Applying a QoS policy

Feature change description

On the Web interface, a QoS policy cannot be applied in the outbound direction.

Command changes

N/A

Release 3109P16

None.

Release 3109P14

None.

Release 3109P09

None.

Release 3109P05

This release has the following changes:

New feature: Upgrading PSE firmware in service

New feature: Upgrading PSE firmware in service

Upgrading PSE firmware in service

You can upgrade the PSE firmware in service in either of the following modes:

- **Refresh mode**—Updates the PSE firmware without deleting it. You can use the refresh mode in most cases.
- **Full mode**—Deletes the current PSE firmware and reloads a new one. Use the full mode if the PSE firmware is damaged and you cannot execute any PoE commands.

Command reference

display poe pse

Use **display poe pse** to display PSE information.

Syntax

display poe pse [*pse-id*]

Views

User view

Predefined user roles

network-admin

network-operator

Parameters

pse-id: Specifies a PSE by its ID.

Usage guidelines

If you do not specify a PSE, this command displays information about all PSEs.

Examples

Display detailed information about PSE 7.

```
<Sysname> display poe pse 7
 PSE ID                              : 7
 Slot No.                           : 1
 SSlot No.                          : 0
 PSE Model                          : LSP7POEB
 PSE Status                         : Enabled
 Power Priority                     : Low
 Current Power                      : 0.0      W
 Average Power                      : 0.0      W
 Peak Power                         : 0.0      W
```

```
Max Power                          : 370.0    W
Remaining Guaranteed Power       : 370.0    W
PSE CPLD Version                   : -
PSE Software Version              : 130
PSE Hardware Version              : 57633
Legacy PD Detection               : Disabled
Power Utilization Threshold      : 80
PD Power Policy                    : Disabled
PD Disconnect-Detection Mode     : AC
```

Table 1 Command output

Field	Description
PSE ID	ID of the PSE.
Slot No.	Slot number of the PSE.
SSlot No.	Subslot number of the PSE.
PSE Status	PoE status of the PSE.
Power Priority	Power priority of the PSE.
Current Power	Current power of the PSE.
Average Power	Average power of the PSE.
Peak Power	Peak power of the PSE.
Max Power	Maximum power of the PSE.
Remaining Guaranteed Power	Remaining guaranteed power of the PSE = Maximum guaranteed power of the PSE – Total maximum power of all critical PIs of the PSE.
PSE CPLD Version	PSE CPLD version number.
PSE Software Version	PSE software version number.
PSE Hardware Version	PSE hardware version number.
Legacy PD Detection	Nonstandard PD detection status: • **Enabled**. • **Disabled**.
Power Utilization Threshold	PSE power alarm threshold.
PD Power Policy	PD power management policy mode.
PD Disconnect Detection Mode	PD disconnection detection mode.

poe update

Use **poe update** to upgrade a PSE firmware when the device is operating.

Syntax

poe update { **full** | **refresh** } *filename* [**pse** *pse-id*]

Views

User view

Predefined user roles

network-admin

Parameters

full: Upgrades the PSE firmware in full mode.

refresh: Upgrades the PSE firmware in refresh mode.

filename: Specifies the name of the upgrade file, a case-sensitive string of 1 to 64 characters. The specified file must be in the root directory of the file system of the device.

pse *pse-id*: Specifies a PSE by its ID.

Usage guidelines

You can upgrade the PSE firmware in service in either of the following modes:

- **Refresh mode**—Updates the PSE firmware without deleting it. You can use the refresh mode in most cases.
- **Full mode**—Deletes the current PSE firmware and reloads a new one. Use the full mode if the PSE firmware is damaged and you cannot execute any PoE commands.

Examples

Upgrade the firmware of PSE 7 in service.

```
<Sysname> poe update refresh POE-168.bin pse 7
```

Release 3109P01

None.

Release 3108P02

None.

ESS 3107

First release.