A5500EI-CMW520-F2218P01 Release Notes

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This document describes the features, restrictions and guidelines, open problems, and workarounds for version A5500EI-CMW520-F2218P01 & A5500EI-CMW520-F2218P01-US. In the interests of brevity for the remainder of this document any reference to A5500EI-CMW520-F2218P01 is also applicable to A5500EI-CMW520-F2218P01-US. 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 *HP A5500EI-CMW-F2218P01 Release Notes (Software Feature Changes)* and the documents listed in "Related documentation."

Version information

Version number

Comware software, Version 5.20.99, Feature 2218P01

Note: You can see the version information with the command **display version** in any view. See **Note** ①**.**

Version history

Table 1 Version history

Version number	Last version	Release Date	Release type	Remarks
A5500EI-CMW520-F2218P01	A5500EI-CMW520-F2217	2012-09-28	Release version	• New features: 1.Supporting using a self-signed certificate for HTTPS; 2.Setting the maximum number of 802.1X authentication attempts for MAC authentication users; 3.Support of 802.1X for issuing VLAN groups; 4.Enabling MAC address migration log notifying; • Modified features: 1.Cluster management; • Removed features: 1.WiNet;
A5500EI-CMW520-F2217	A5500EI-CMW520-R2215	2012-08-31	Release version	• New features: 1.Automatic configuration file backup for software downgrading; 2.FIPS; 3.Configuring ACL-based IPsec; 4.IKE; 5.Verifying the correctness and integrity of the file; • Modified features: 1.Configuring a password for the local user; 2.Clearing all users from the password control blacklist;

Version number	Last version	Release Date	Release type	Remarks
				3.802.1X critical VLAN; 4.MAC authentication critical VLAN; 5.Modifying CLI configuration commands executed in FIPS mode for CC evaluation; 6.Modifying login management commands executed in FIPS mode for CC evaluation; 7.Modifying software upgrade commands executed in FIPS mode for CC evaluation; 8.Modifying security commands executed in FIPS mode for CC evaluation; 9.Modifying SNMP commands executed in FIPS mode for CC evaluation;
A5500EI-CMW520-R2215	A5500EI-CMW520-F2212	2012-04-28	Release version	• New features: 1. Interface range configuration; 2. NTPv4; 3. Changing the brand name; 4. Remaining POE power display by slot for IRF; 5. Configuring LLDP to advertise a specific voice VLAN; 6. Set the maximum number of Selected ports for the aggregation group;
A5500EI-CMW520-F2212	A5500EI-CMW520-F2211	2012-02-24	Feature version	• New features: 1.Setting the DSCP value for multiple types of protocol packets; 2.Portal authentication in IPv6 networks; • Modified features: 1. Modified password/key related configuration. For more information, see Feature and Command Change History for HP A5500EI-CMW520-F2212;
A5500EI-CMW520-F2211	A5500EI-CMW520-R2210	2011-11-30	Feature version	• New features: 1.Critical VLAN ; 2.SCP(Secure copy) ; 3.Configuring a source interface for DNS packets; 4.MVRP(Multiple VLAN Registration Protocol) ; 5.Enabling LLDP to automatically discover IP phones;
A5500EI-CMW520-R2210	A5500EI-CMW520-R2208	2011-9-16	Release version	• New features: 1.SAVI (Source Address Validation) ; 2.Global IP address binding ; 3.Layer-3 Combo port ; 4.PVST+ ; 5.Configuring secure addresses to age without

Version number	Last version	Release Date	Release type	Remarks
				being triggered by traffic 6.Set Sticky MAC addresses as dynamic secure MAC addresses 7.Dot1dTpFdbTable of RFC 1493 8.Encryption of shared keys for HWTACACS packets 9.DHCP snooping option 82 support for sub-option 9 10.Obtaining receiving power of optical modules through MIB 11.Obtaining utilization of H3C device ACL resources through MIB 12.Super VLAN for IPv6 13.Local proxy ND 14.Easy configuration for Isolate-user-VLAN 15.CWMP (CPE WAN Management Protocol) 16.PIM Snooping 17.IPv6 PIM Snooping 18.STP TC-Snooping 19.IPv6 routing protocols for MCE 20.Configurable Jumbo frame size 21.Restore port-based default settings 22.WFQ support for SP/WRR/DRR 23.WEB based Triple authentication configuration 24.Collaboration between Smart Link and CFD CC detection 25.PoE power negotiation through Power Via MDI TLV 26.Port aggregation priority effective in static aggregation groups 27.OSPFv3 BFD 28.ISISv6 BFD 29.PIM BFD 30.IPv6 PIM BFD 31.SSH2 IPv6 32.SFTP IPv6 33.MAC address roaming 34.Loose URPF 35.Configurable minimum number of ports in an aggregation group 36.Keyword vpn-instance added for the telnet ipv6 command 37.Keyword vpn-instance added for the ftp ipv6

Version number	Last version	Release Date	Release type	Remarks
				command 38.Keyword vpn-instance added for the tftp ipv6 command 39.Restoring the default operating mode for CDP-compatible LLDP 40.DHCP snooping support for packet rate limit
A5500EI-CMW520-R2208	S5500EI-CMW520-R2208	2011-6-17	Release version	• New features: 1. ipv6 neighbor stale-aging;

Hardware and software compatibility matrix

Before HP A5500EI family, there were another 2 product families, i.e 3Com 4800G and H3C S5500EI, shipped to market. All of these three product families have same hardware and software specification except brand. The product matrix is as following. In brief, the HP A5500EI will be the representation to all of them in subsequent document.

Table 2 HP A5500EI product family matrix

HP A5500EI	3Com 4800G	H3C S5500EI
HP A5500-24G EI	Switch 4800G 24-Port	H3C S5500-28C-EI
HP A5500-48G EI	Switch 4800G 48-Port	H3C S5500-52C-EI
HP A5500-24G-PoE+ EI	Switch 4800G 24-Port PWR	H3C S5500-28C-PWR-EI
HP A5500-48G-PoE+ EI	Switch 4800G 48-Port PWR	H3C S5500-52C-PWR-EI
HP A5500-24G-SFP EI	Switch 4800G 24-Port SFP	H3C S5500-28F-EI
HP A5500-24G EI TAA	Switch 4800G 24-Port	H3C S5500-28C-EI
HP A5500-48G EI TAA	Switch 4800G 48-Port	H3C S5500-52C-EI
HP A5500-24G-SFP EI TAA	Switch 4800G 24-Port SFP	H3C S5500-28F-EI
HP A5500-24G-PoE+ EI TAA	Switch 4800G 24-Port PWR	H3C S5500-28C-PWR-EI
HP A5500-48G-PoE+ EI TAA	Switch 4800G 48-Port PWR	H3C S5500-52C-PWR-EI

Table 3 Hardware and software compatibility matrix

Item	Specifications
Product family	HP A5500 EI series H3C S5500-EI series 3Com Switch 4800G series
Hardware platform	HP A5500-24G EI Switch with 2 Interface Slots HP A5500-48G EI Switch with 2 Interface Slots HP A5500-24G-PoE+ EI Switch with 2 Interface Slots HP A5500-48G-PoE+ EI Switch with 2 Interface Slots

Item	Specifications
	HP A5500-24G-SFP EI Switch with 2 Interface Slots HP A5500-24G EI TAA Switch with 2 Interface Slots HP A5500-48G EI TAA Switch with 2 Interface Slots HP A5500-24G-SFP EI TAA Switch with 2 Interface Slots HP A5500-24G-PoE+ EI TAA Switch with 2 Interface Slots HP A5500-48G-PoE+ EI TAA Switch with 2 Interface Slots H3C S5500-28C-EI H3C S5500-52C-EI H3C S5500-28C-PWR-EI H3C S5500-52C-PWR-EI H3C S5500-28C-EI-DC H3C S5500-28F-EI Switch 4800G 24-Port Switch 4800G 48-Port Switch 4800G 24-Port PWR Switch 4800G 48-Port PWR Switch 4800G 24-Port SFP
Minimum memory requirements	256 MB
Minimum Flash requirements	32 MB
Boot ROM version	Version 712 or higher (See Note②)
System software image	A5500EI-CMW520-F2218P01.bin
IMC	iMC EAD 5.1 SP1 (E0301P03) iMC NTA 5.1 (E0201) iMC PLAT 5.1 SP1 (E0202P05) iMC QoSM 5.1 (E0201) iMC TAM 5.1 (E0301) iMC UAM 5.1 SP1 (E0301P03)
INode	iNode PC 5.1 (E0304)

Display version information on the A5500EI switch:

```
<HP>display version
HP Comware Platform Software
Comware Software, Version 5.20.99, Feature 2218P01----------------------Note①
Copyright (c) 2010-2012 Hewlett-Packard Development Company, L.P.
HP A5500-24G-PoE+ EI Switch with 2 Interface Slots uptime is 0 week, 0 day, 0 ho
ur, 1 minute

HP A5500-24G-PoE+ EI Switch with 2 Interface Slots with 1 Processor
256M    bytes SDRAM
```

```
32768K  bytes Flash Memory

Hardware Version is REV.B
CPLD Version is 002
Bootrom Version is 712----------------------------------------------Note②
[SubSlot 0] 24GE+4SFP+POE Plus Hardware Version is REV.B
```

Upgrading restrictions and guidelines

1. Release F2212 or later adopts a new password encryption algorithm. The password saved in the configuration file has been processed by the new algorithm. If you roll back the software from Release F2212 or later to a version before F2212, the password cannot be restored, and login will fail.

Hardware feature updates

A5500EI-CMW520-F2218P01

None

A5500EI-CMW520-F2217

None

A5500EI-CMW520-R2215

None

A5500EI-CMW520-F2212

None

A5500EI-CMW520-F2211

None

A5500EI-CMW520-R2210

None

A5500EI-CMW520-R2208

None

S5500EI-CMW520- R2208

New features: None

Software feature and command updates

For more information about the software feature and command update history, see *HP A5500EI-CMW520-F2218P01* Release Notes (Software Feature Changes).

MIB updates

Table 4 MIB updates

Item	MIB file	Module	Description
A5500EI-CMW520-F2218P01			
New		None	None
Modified	hh3c-radius.mib	HH3C-RADIUS-MIB	Changed the value returned by the following MIBs from a plaintext or ciphertext password to empty or "******": (1)hh3cUserPassword (2)hh3cRdKey (3)hh3cRdSecKey (4)hh3cRdAccKey (5)hh3cRdSecAccKey (6)hh3cRadiusSchAuthPrimKey (7)hh3cRadiusSchAuthSecKey (8)hh3cRadiusSchAccPrimKey (9)hh3cRadiusSchAccSecKey (10)hh3cDot11SrvSecurityPskKeyString (11)hh3cSecureRalmAuthPassword (12)hh3cDot11SecurityPskKeyString
A5500EI-CMW520-F2217			
New		None	None
Modified		None	None
A5500EI-CMW520-R2215			
New		None	None

Item	MIB file	Module	Description
Modified		None	None
A5500EI-CMW520-F2212			
New		None	None
Modified		None	None
A5500EI-CMW520-F2211			
New		hh3cCfgLogTable	HH3C-CONFIG-MAN-MIB
		hh3cCfgOperateTable	HH3C-CONFIG-MAN-MIB
Modified		None	None
A5500EI-CMW520-R2210			
New		rfc1493-bridge.mib	BRIDGE-MIB
		rfc1493-bridge.mib	BRIDGE-MIB
		hh3c-acl.mib	ACL-MIB
		hh3c-transceiver-info.mib	TRANSCEIVER-MIB
		savi-mib.mib	SAVI-MID
Modified		rfc2011-ip-icmp.mib	IP-MIB
		rfc2465-ipv6.mib	IPV6-MIB
A5500EI-CMW520-R2208			
New		None	None
Modified		None	None
S5500EI-CMW520-R2208			
New	None	None	None
Modified	None	None	None

Configuration changes

A5500EI-CMW520-F2218P01 Changes in Operations

1. The cluster management feature provides a simple method to manage multiple units using a single IP address, however it does use some protocols that are not considered totally secure. In this release, the cluster management protocols, including NDP, NTDP, and Cluster, are disabled by default to avoid any possible security risks.

   If cluster management is required it is necessary to re-enable the required protocols with the following commands: ndp enable, ntdp enable, and cluster enable. In addition, HP recommends that a separate management VLAN for the cluster should be established. Only the access ports that

are used to link the cluster members should belong to this VLAN so the inter-switch protocol will not be accessible to insecure devices, including PCs and other network devices.

The Winet feature is removed in this release as it is not considered totally secure. The Winet functionality is available through other management methods.

2. Changed the maximum number of Free IP networks for 802.1X authentication from 4 to 16.
3. Suffix requirement change for execute batch files

   (1)Before modification, execute batch files must have a suffix of ".bat".

   (2)After modification, execute batch files can have any suffix.

A5500EI-CMW520-F2217 Changes in Operations

1. Change the maximum online time from 65535 seconds to 2147483647 seconds for MAC authentication users in the RADIUS authentication approach.
2. Change the MAC authentication delay setting:

   (1)Before: On a port where both 802.1X authentication and MAC authentication are enabled, MAC authentication starts after a delay of 30 seconds.

   (2)After: By default, MAC authentication is not delayed. The following command is provided to enable MAC authentication delay and set the delay time.

   mac-authentication timer auth-delay time

   undo mac-authentication timer auth-delay
3. Change the maximum number of sub VLANs in an Isolate-user-VLAN from 64 to 192.
4. Patch operation change:

   In earlier versions, when a patch is installed on a switch that has been installed with another patch, the switch replaces the existing patch with the new patch without any prompt. This creates risks. This version prompts a message "Another patch loaded, please uninstall it first."
5. Operation change for whether a port leaves the critical VLAN after the silent timer expires:

   After a port is assigned to the critical VLAN, the RADIUS server state changes to "blocked", and the silent timer of the RADIUS server starts (this timer is configurable and defaults to 5 minutes).

   In earlier versions:

   (1) If the port uses 802.1X authentication, it leaves the critical VLAN when the silent timer expires. If the port is configured with the dot1x critical recovery-action command, its leaving triggers new 802.1X authentication.

   (2)If the port uses MAC authentication, it leaves the critical VLAN when the silent timer expires.

   In this version:

   (1)If the port uses 802.1X authentication, it remains in the critical VLAN when the silent timer expires. If the port is configured with the dot1x critical recovery-action command, the silent timer expiration triggers new 802.1X authentication.

(2)If the port uses MAC authentication, it remains in the critical VLAN and triggers new MAC authentication when the silent timer expires.

6. If a save operation is performed on a switch where a software version of F2217 or later is running and the version number in the current startup configuration file is lower than F2212, the system first backs up the startup configuration file and then saves the current configuration. For example, suppose the startup configuration file is a.cfg. When a save operation is performed, the system first backs up a.cfg into _a_bak.cfg and then saves the current configuration into a.cfg.

A5500EI-CMW520-R2215 Changes in Operations

1. Forwarded ARP packets are not rate limited.

A5500EI-CMW520-F2212 Changes in Operations

None

A5500EI-CMW520-F2211 Changes in Operations

None

A5500EI-CMW520-R2210 Changes in Operations

1. Added the function of redistributing default routes into RIPng.
2. In earlier versions, if you specify both the output interface and next hop for an IPv6 static route, the specified next hop must be a link-local address. This version removes the limitation and allows you to specify a global unicast address as the next hop.
3. Added Root protection on the edge port.
4. Changed the maximum number of loopback interfaces to 1023.
5. Changed the maximum number of BGP peers from 40 to 64.
6. Changed the maximum number of VRRP groups to 255.
7. Changed the maximum number of OSPFv3 processes to 64.
8. Changed the maximum number of VTY users from 5 to 16.
9. Changed the maximum number of BFD sessions from 8 to 20.
10. Changed the maximum number of 10G aggregated ports from 4 to 8.

11. Changed the user-bind { ip-address X.X.X.X | mac-address H-H-H } [vlan INTEGER<1-4094>] command in port view to ip source binding { ip-address X.X.X.X | mac-address H-H-H } [vlan INTEGER<1-4094>].
12. Changed the ip check source { ip-address | mac-address } command in port view to ip verify source { ip-address | mac-address }.
13. Change the command of {ipsec-policy } to {enable ipsec-policy }.

A5500EI-CMW520-R2208 Changes in Operations

None

S5500EI-CMW520-R2208 Changes in Operations

First Release

Restrictions and cautions

1. Due to implementation limitation, VLAN ACLs do not take effect on QinQ-enabled ports.
2. Port isolation group configuration takes precedence over traffic redirect configuration. For example, add GE1/0/1 and GE1/0/2 to a port isolation group, and configure GE1/0/1 to redirect specific traffic to GE1/0/2. The redirect configuration does not take effect because the two ports have been isolated.
3. The display diagnostic-information command creates a very large amount of data. The output from this command is quite likely to exceed the flash storage limits of the device and fail. To avoid this possibility, please select the command option to display the output from the command and save the displayed results to an external file.
4. Combo ports do not support route mode.
5. Multi-port loopback detection is available on a single device only.
6. Multicast ARP is supported only on A5500-24G EI / A5500-24G-PoE+ EI / A5500-24G-SFP EI, the output ports of a multicast ARP entry must reside on the same device.
7. Release F2212 or later adopts a new password encryption algorithm. The password saved in the configuration file has been processed by the new algorithm. If you roll back the software from Release F2212 or later to a version before F2212, the password cannot be restored, and login will fail.

Open problems and workarounds

LSD67923

- Symptom: In this version of code, the password encryption within configuration files has been enhanced and cannot be interpreted by earlier revisions of the agent code. This means that if a unit is downgraded to earlier code, it may no longer be possible to login and manage the device.
- Condition: This symptom might occur after the software is downgraded to a version before F2212.
- Workarounds:
  - Before upgrading to the new code, it is necessary to ensure password control is disabled. Execute the "*undo password-control enable*" and then save this configuration file as a backup in case you need to downgrade the software again. If it is later necessary to downgrade to earlier software, force the switch to use this backup configuration file by executing a "*startup saved-configuration (filename)*" command before rebooting to the old code. Then, after the code has been downgraded, the device can be logged in from the console or by Telnet, but not SSH. The SSH authentication details will need to be reset.
  - If no backup configuration has been saved but it is still possible to access the device management via some method while running the old code (e.g. Console, Telnet or SSH), then you can redefine all the device management passwords as required.
  - If after a downgrade it is impossible to login to the device via any method, then there are two ways to recover the switch:
    - From the BOOT menu, set the new code to run again and reboot the device. Disable Telnet authentication:
      User-interface vty 0 4
      Authentication mode none
      Then save the configuration and downgrade the code again, login via Telnet and reset all the passwords as required.
    - From the BOOT menu. On boot-up, use Ctrl+B to enter the Boot menu and then force the unit to use the factory default configuration (bypassing the user configuration). The unit will then need to be fully reconfigured.

List of resolved problems

Resolved problems in A5500EI-CMW520-F2218P01

ZDTB00298

- Symptom: The switch might reboot if the portal authentication function on a VLAN interface is disabled when portal users are going online.
- Condition: This symptom might occur if you disable portal authentication function on a VLAN interface when portal users are going online.

LSD072331

- Symptom: After a reboot, the **super password level x hash** setting gets lost from the configuration file.
- Condition: This symptom might occur after a reboot.

LSD072325

- Symptom: A user that has passed MAC-based 802.1X authentication on a port cannot access the network.
- Condition: This symptom might occur if some ports are configured with MAC-based 802.1X authentication and some other ports are configured with port-based 802.1X authentication and guest VLAN.

LSD072523

- Symptom: When CWMP is disabled on an IRF fabric, a reboot of a member switch might cause the other member switch to reboot.
- Condition: This symptom might occur if an IRF member switch is rebooted when CWMP is disabled on the IRF fabric.

LSD072504

- Symptom: If the **mac-address station-move quick-notify enable** command is configured on the RRPP master node, a link-down event on a transit node cannot be quickly reported.
- Condition: This symptom occurs if the **mac-address station-move quick-notify enable** command is configured on the RRPP master node.

Resolved problems in A5500EI-CMW520-F2217

ZDTB00288

- Symptom: The IP address of a Null interface assigned through SNMP cannot be deleted.
- Condition: This symptom might occur on a Null interface whose IP address is assigned through SNMP.

ZDTB00293

- Symptom: A walk of lldpRemSysName MIB returns "No Such Instance currently exists at this OID".
- Condition: This symptom might occur when the port has an LLDP neighbor and the TimeFilter is set to 0.

LSTB005612

- Symptom: The etherStatsOversizePkts field has an exceptionally large value in the output of the display rmon statistics command.
- Condition: This symptom might occur if the reset count interface command is executed on a port configured with RMON accounting when the port has traffic.

ZDTB00287

- Symptom: When a device uses a routing policy to filter BGP routes with specific AS-path and community attributes, the device has low efficiency. When some routes matching the policy flap, the CPU usage is high for a long time.

- Condition: The first symptom might occur if the routing policy contains a large number of regular expressions. The second symptom might occur if some routes matching such a routing policy flap.

LSD071986

- Symptom: The switch enabled with MFF cannot boot up.
- Condition: This symptom might occur on a switch where MFF is enabled on some VLANs to which a combo port belongs but is disabled on other VLANs of the combo port.

LSD071810

- Symptom: The value obtained by an SNMP walk of probeCapabilities MIB is incorrect.
- Condition: This symptom might occur during an SNMP walk of probeCapabilities MIB.

LSD071866

- Symptom: A port connected to a client that fails and then passes 802.1X authentication cannot leave the guest VLAN. As a result, the client cannot access the network.
- Condition: This symptom might occur if the both following conditions exist:

  (1)802.1X is enabled on the port, and the guest VLAN and Auth-Fail VLAN are configured as the same VLAN.

  (2)The port is assigned to the guest VLAN after the client fails authentication, and then the client passes authentication.

LSD071501

- Symptom: A client that passes 802.1X authentication cannot access the network.
- Condition: This symptom might occur when the both following conditions exist on the port connected to the client:

  (1)MAC authentication and 802.1X authentication are both configured and the VLAN to which the port is assigned when the client passes MAC authentication is configured.

  (2)802.1X authentication is performed after MAC authentication succeeds.

LSD071635

- Symptom: A port cannot come up after the fiber or fiber transceiver connected to the port is inserted and removed multiple times.
- Condition: This symptom might occur after the fiber or fiber transceiver connected to a port is inserted and removed multiple times.

Resolved problems in A5500EI-CMW520-R2215

LSD69938

- Symptom: After an IRF master/subordinate switchover, configuring PoE ports through a PoE profile fails.
- Condition: This symptom might occur if you use a PoE profile to configure PoE ports after an IRF master/subordinate switchover.

ZDD04981

- Symptom: The HTTPS server enabled on the switch fails to work and users cannot access the Web interface or log in to the switch through SSH.

- Condition: This symptom might occur when the switch receives TCP attacks such as SSH attacks.

ZDD04994

- Symptom: The CLI does not respond to an NMS that uses SNMPv3 with 3DES to access the switch.
- Condition: This symptom might occur when an NMS uses SNMPv3 with 3DES to access the switch.

LSD070340

- Symptom: The switch reboots when an SNMPv3 client accesses it.
- Condition: This symptom might occur if the SNMPv3 client matches an ACL rule that is configured with the **logging** keyword.

LSD070554

- Symptom: Saving a large configuration file through Web fails.
- Condition: This symptom might occur when you use Web to save a large configuration file.

LSD68432

- Symptom: Strict uRPF check does not work for specific traffic.
- Condition: This symptom might occur if the specific traffic matches IPv4 routes learned from an ABR.

LSD67940

- Symptom: CDP packets have incorrect checksums.
- Condition: This symptom might occur when the **lldp compliance cdp** command is configured in system view.

LSD070943

- Symptom: IMC fails to walk the hh3cSysCurImageIndex MIB node and cannot get version information.
- Condition: This symptom might occur when IMC walks the hh3cSysCurImageIndex MIB node to get version information.

LSD64524

- Symptom: LLDP packets have incorrect auto-negotiation capability values in TLVs and relevant MIB values displayed are also incorrect.
- Condition: This symptom might occur when the switch is enabled with LLDP.

Resolved problems in A5500EI-CMW520-F2212

LSD66630

- Symptom: The panels of HP TAA devices are wrongly displayed
- Condition: Entering the web interface.

LSD67507

- Symptom: Only 32 ARP entries are updated when more than 32 MAC addresses are moved to different ports.
- Condition: This symptom might occur when more than 32 MAC addresses are moved to different ports.

LSD68504

- Symptom: A QoS policy fails to be applied.
- Condition: This symptom might occur when the traffic behaviors of the QoS policy include both Car and Remark actions.

LSD65758

- Symptom: There is some checksum error information when insert old 3Com SFP transceivers.
- Condition: None.

Resolved problems in A5500EI-CMW520-F2211

LSD64553

- Symptom: The switch cannot be rebooted from an NMS (for example, IMC) through SNMP.
- Condition: This symptom might occur if the NMS uses SNMP to reboot the switch.

LSD65459

- Symptom: Memory leaks occur on the HTTP module and the switch might reboot if the switch receives large amounts of HTTP packets with the same fields.
- Condition: This symptom might occur if the switch receives large amounts of HTTP packets with the same fields.

LSD65492

- Symptom: The switch drops IP fragments.
- Condition: This symptom might occur when DHCP snooping is enabled globally.

LSD65749

- Symptom: The returned value of dot3StatsDuplexStatus MIB on a down port is not "unknown" but is the same as the value (for example, full-duplex) when the port is up.
- Condition: This symptom might occur during a walk of dot3StatsDuplexStatus MIB on a port that is down.

Resolved problems in A5500EI-CMW520-R2210

LSD59568

- Symptom: During IRF split, OSPF neighbors are reformed, resulting in packet loss.
- Condition: This symptom might occur if an IRF fabric that comprises multiple S5500EI switches and has LACP MAD configured splits.

LSD62084

- Symptom: A MAC address that has passed authentication in a VLAN cannot be authenticated in other VLANs.
- Condition: None.

LSD57794

- Symptom: The port information in trap messages is incorrect when MAC addresses are added or removed on a port configured with mac-address information.
- Condition: This symptom exists in trap messages generated when MAC addresses are added or removed on a port configured with mac-address information.

LSD62470

- Symptom: The switch performs unknown unicast storm suppression according to all unicast packets, including known unicast packets and unknown unicast packets.
- Condition: This symptom might occur if storm-constrain mode for unicast traffic is configured as PPS.

LSD62954

- Symptom: EAP failure messages sent by the switch do not conform to RFC3748.
- Condition: This symptom exists in EAP failure messages sent by the switch.

LSD58411

- Symptom: During IRF split and merge, LACP MAD on an aggregate interface fails to work because some member ports cannot be selected.
- Condition: This symptom might occur if the aggregate interface is configured as a reserved interface and IRF split and IRF merge occur.

TCD02667

- Symptom: Some online users are logged off when many users get online through a port enabled with MAC-based VLAN, Voice VLAN, and 802.1X.
- Condition: This symptom might occur if the port is enabled with MAC-based VLAN, Voice VLAN, and 802.1X and too many users get online through the port.

LSD60563

- Symptom: When an SSH user passes TACACS+ authentication but fails authorization, a memory access anomaly occurs, resulting in protocol interruption or system reboot.
- Condition: This symptom might occur when an SSH user passes TACACS+ authentication but fails authorization.

LSD60569

- Symptom: Authenticated portal users experience a very slow speed during access to the Web server.
- Condition: This symptom might occur when more than 100 portal users access the Web server concurrently and many portal-free rules are configured.

Resolved problems in A5500EI-CMW520-R2208

LSD60570

- Symptom: Applying MQC or packet filter rules on ports fails.
- Condition: This symptom might occur if the same IPv4 and IPv6 rules are applied in the outbound direction on two or more physical ports.

LSD56439

- Symptom: OSPF neighbors are disconnected and reformed.
- Condition: This symptom might occur if OSPF with MD5 authentication has run for a long time when many OSPF neighbors exist.

LSD57597

- Symptom: The Option field of DHCP packets received by the switch has incorrect information.
- Condition: This symptom might occur when the switch is configured with the DHCP snooping option and the receiving port is configured with QinQ.

ZDD03868

- Symptom: An NQA operation fails.
- Condition: This symptom might occur when a next hop is specified for the NQA operation.

LSD59556

- Symptom: OSPF routes cannot be removed during continuous route flapping.
- Condition: This symptom might occur because continuous OSPF route flapping results in fast increase of LSA advertisement time.

LSD55389

- Symptom: The configured NAS IP address cannot be assigned.
- Condition: This symptom might occur if the least significant octet of the NAS IP address is 255.

LSD58705

- Symptom: The NTP peer on a VLAN interface cannot be removed.
- Condition: This symptom might occur if you perform the following steps multiple times:
  a. Configure the NTP broadcast-server or NTP broadcast-client on the VLAN interface.
  b. Configure the NTP peer on the VLAN interface.
  c. Remove the VLAN interface' IP address, the VLAN interface, and the NTP peer.

LSD60991

- Symptom: The switch cannot establish LLDP neighbor relationship with a Cisco IP phone.
- Condition: This symptom might occur when the switch connects to the Cisco IP phone through LLDP.

LSD59580

- Symptom: The mac-address max-mac-count configuration cannot take effect when you make this configuration on two ports whose port number difference is 24 (for example, g1/0/1 and g1/0/25 or g1/0/3 and g1/0/27).
- Condition: This symptom might occur if you configure mac-address max-mac-count on two ports whose port number difference is 24 on an S5500-52C-EI/S5500-52C-PWR-EI switch.

LSD60395

- Symptom: An SNMP walk of dot1qVlanStaticUntaggedPorts MIB returns an incorrect value.
- Condition: This symptom occurs during an SNMP walk of dot1qVlanStaticUntaggedPorts MIB.

ZDD03986

- Symptom: The 64-byte memory is corrupted when a packet received from the RADIUS server contains a 63-byte callback number, resulting in command resolution failure or a system reboot.
- Condition: This symptom might occur if a packet received from the RADIUS server contains a 63-byte callback number.

LSD59641

- Symptom: Authentication and accounting servers configured on the IMC fail to be assigned.
- Condition: This symptom might occur when you use IMC to configure and assign authentication and accounting servers.

LSD60392

- Symptom: The **bpdu-drop any** configuration gets lost on some ports of a subcard.
- Condition: This symptom might occur after you configure the **bpdu-drop any** command on the subcard and then remove and insert the subcard.

Resolved Problems in S5500EI-CMW520-R2208

First release.

Related documentation

Documentation set

- HP A5500 EI Switch Series Installation Guide
- HP 5500 EI & 5500 SI Switch Series Configuration Guides-Release 2215
- HP 5500 EI & 5500 SI Switch Series Command References-Release 2215
- HP PSR150-A & PSR150-D Power Supplies User Guide

Obtaining documentation

To find related documents, browse to the Manuals page of the HP Business Support Center website:

http://www.hp.com/support/manuals

Contacting HP

For worldwide technical support information, see the HP support website:

http://www.hp.com/support

Before contacting HP, collect the following information:

- Product model names and numbers
- Technical support registration number (if applicable)
- Product serial numbers

- Error messages
- Operating system type and revision level
- Detailed questions

Subscription service

HP recommends that you register your product at the Subscriber's Choice for Business website:

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

After registering, you will receive email notification of product enhancements, new driver versions, firmware updates, and other product resources.

Appendix A Feature list

Table 5 lists the models in the HP A5500 EI Switch Series and their aliases used in this document.

Table 5 Models in the HP A5500 EI Switch Series

Type	Product code	HP description	Alias
Non PoE+ type	JD377A	HP A5500-24G EI Switch with 2 Interface Slots	A5500-24G EI (2 slots)
	JG250A	HP A5500-24G EI TAA Switch with 2 Interface Slots	A5500-24G EI TAA(2 slots)
	JD375A	HP A5500-48G EI Switch with 2 Interface Slots	A5500-48G EI (2 slots)
	JG251A	HP A5500-48G EI TAA Switch with 2 Interface Slots	A5500-48G EI TAA (2 slots)
	JD374A	HP A5500-24G-SFP EI Switch with 2 Interface Slots	A5500-24G-SFP EI (2 slots)
	JG249A	HP A5500-24G-SFP EI TAA Switch with 2 Interface Slots	A5500-24G-SFP EI TAA (2 slots)
PoE+ type	JG241A	HP A5500-24G-PoE+ EI Switch with 2 Interface Slots	A5500-24G-PoE+ EI (2 slots)
	JG252A	HP A5500-24G-PoE+ EI TAA Switch with 2 Interface Slots	A5500-24G-PoE+ EI TAA (2 slots)
	JG240A	HP A5500-48G-PoE+ EI Switch with 2 Interface Slots	A5500-48G-PoE+ EI (2 slots)
	JG253A	HP A5500-48G-PoE+ EI TAA Switch with 2 Interface Slots	A5500-48G-PoE+ EI TAA (2 slots)

Hardware features

Table 6 Technical specifications (I)

Item	HP A5500-24G EI (2 slots) HP A5500-24G EI TAA (2 slots)	HP A5500-48G EI (2 slots) HP A5500-48G EI TAA (2 slots)	HP A5500-24G-SFP EI (2 slots) HP A5500-24G-SFP EI TAA (2 slots)
Dimensions (H × W × D)	43.6 × 440 × 300 mm (1.72 × 17.32 × 11.81 in)	43.6 × 440 × 300 mm (1.72 × 17.32 × 11.81 in)	43.6 × 440 × 360 mm (1.72 × 17.32 × 14.17 in)
Weight	< 5 kg (11.02 lb)	< 5 kg (11.02 lb)	< 6 kg (13.23 lb)
Management port	One console port, on the front panel		

Item	HP A5500-24G EI (2 slots) HP A5500-24G EI TAA (2 slots)	HP A5500-48G EI (2 slots) HP A5500-48G EI TAA (2 slots)	HP A5500-24G-SFP EI (2 slots) HP A5500-24G-SFP EI TAA (2 slots)
Fixed network ports (on the front panel)	24 × 10/100/1000Base-T auto-sensing Ethernet port 4 × 1000Base-X SFP port	48 × 10/100/1000Base-T auto-sensing Ethernet port 4 × 1000Base-X SFP port	8 × 10/100/1000Base-T auto-sensing Ethernet port 24 × 1000Base-X SFP port
	The last four 10/100/1000Base-T Ethernet ports and the four SFP ports comprise four combo interfaces.		The last eight SFP ports and the eight 10/100/1000Base-T Ethernet ports comprise eight combo interfaces.
	For each combo interface, either the SFP port or the corresponding Ethernet port can be used at a time. For the port pairs forming combo interfaces, see Table 8 .		
Interface card slots	Two on the rear panel		
Interface card models	LSPM2GP2P (JD367A) (not supporting IRF) LSPM1CX2P (JD360B) (supporting IRF) LSPM2SP2P (JD368B) (supporting IRF) LSPM1XP2P (JD359B) (supporting IRF) LSPM1XP1P (JD361B) (supporting IRF)		
Hot swappable power supplies	N/A	N/A	PSR150-A (JD362A) PSR150-D (JD366A)
Power supply system	The A5500-24G-SFP EI (2 slots), A5500-24G-SFP EI TAA (2 slots) and S5500-28F-EI adopt hot-swappable power supplies, and provides two power supply slots. The other models have two fixed power receptacles.		
Power receptacle types and quantity	H3C S5500-28C-EI-DC: 1 AC power socket and 1 –48V DC power socket The other models:1 AC power socket and 1 RPS power socket	1 AC power socket and 1 RPS power socket	PSR150-A (JD362A): 1 AC power socket PSR150-D (JD366A): 1 –48V DC power socket
Input voltage – AC	Rated voltage range: 100 VAC to 240 VAC, 50 Hz or 60 Hz Input voltage range: 90 VAC to 264 VAC, 47 Hz to 63 Hz		
Input voltage – –48V DC	Rated voltage range: –48 VDC to –60 VDC Input voltage range: –36 VDC to –72 VDC		
Input voltage – RPS	The rated voltage range is 10.8 VDC to 13.2 VDC. Use the external RPS power supply unit—HP A-RPS800 (JD183A) and H3C RPS800-A—recommended by HP/H3C only.		
Minimum power consumption	H3C S5500-28C-EI-DC: 27W The other models:36 W	63 W	PSR150-A (JD362A): 44 W PSR150-D (JD366A): 30 W
Maximum power consumption	H3C S5500-28C-EI-DC: 105W The other models:110 W	155 W	115 W
Cooling system	4 fans		6 fans (4 for the system, and

Item	HP A5500-24G EI (2 slots) HP A5500-24G EI TAA (2 slots)	HP A5500-48G EI (2 slots) HP A5500-48G EI TAA (2 slots)	HP A5500-24G-SFP EI (2 slots) HP A5500-24G-SFP EI TAA (2 slots)
			1 for each power supply)
Operating temperature	0°C to 45°C (32°F to 113°F)		
Relative humidity (noncondensing)	10% to 90%		

Table 7 Technical specifications (II)

Item		HP A5500-24G-PoE+ EI (2 slots) HP A5500-24G-PoE+ EI TAA (2 slots)	HP A5500-48G-PoE+ EI (2 slots) HP A5500-48G-PoE+ EI TAA (2 slots)
Dimensions (H × W × D)		43.6 × 440 × 420 mm (1.72 × 17.32 × 16.54 in)	43.6 × 440 × 420 mm (1.72 × 17.32 × 16.54 in)
Weight		< 7.5 kg (16.53 lb)	< 8.0 kg (17.64 lb)
Management port		1 console port, on the front panel	
Fixed network ports (on the front panel)		24 × 10/100/1000Base-T auto-sensing Ethernet port (support PoE) 4 × 1000Base-X SFP port	48 × 10/100/1000Base-T auto-sensing Ethernet port (support PoE) 4 × 1000Base-X SFP port
		The last four 10/100/1000Base-T Ethernet ports and the four SFP ports comprise four combo interfaces. For each combo interface, either the SFP port or the corresponding Ethernet port can be used at a time. For the port pairs forming combo interfaces, see Table 8 .	
Interface card slots		Two on the rear panel	
Interface card models		LSPM2GP2P (JD361B) (not supporting IRF) LSPM1CX2P (JD360B) (supporting IRF) LSPM2SP2P (JD368B) (supporting IRF) LSPM1XP2P (JD359B) (supporting IRF) LSPM1XP1P (JD361B) (supporting IRF)	
Power supply system		Two fixed power receptacles, one AC receptacle, and one RPS receptacle.	
Input voltage	AC	Rated voltage range: 100 VAC to 240 VAC, 50 Hz or 60 Hz Input voltage range: 90 VAC to 264 VAC, 47 Hz to 63 Hz	
	RPS	The rated voltage range is –55 VDC to –52 VDC. Use the external RPS power supply unit—HP A-RPS1600 (JG136A) and H3C RPS1600-A—recommended by HP/H3C only.	
Maximum PoE power per port		30 W	30 W
Total PoE power		370 W	AC power supply: 370 W RPS power supply: 740 W (The total PoE power of ports numbered 1 through 24 is

Item		HP A5500-24G-PoE+ EI (2 slots) HP A5500-24G-PoE+ EI TAA (2 slots)	HP A5500-48G-PoE+ EI (2 slots) HP A5500-48G-PoE+ EI TAA (2 slots)
			370 W, and that of ports numbered 25 through 48 is 370 W.)
Minimum power consumption		60 W	85 W
Maximum power consumption (including PoE power)	AC	221 W + 370W	291 W + 370W
	RPS	122 W + 370W	190 W + 740W
Cooling system		6 fans	
Operating temperature		0°C to 45°C (32°F to 113°F)	
Relative humidity (noncondensing)		10% to 90%	

Table 8 SFP-Ethernet port pairs forming Combo interfaces

Model	SFP port	10/100/1000Base-T Ethernet port
HP A5500-24G EI (2 slots) HP A5500-24G EI TAA (2 slots) HP A5500-24G-PoE+ EI (2 slots) HP A5500-24G-PoE+ EI TAA (2 slots)	GigabitEthernet 1/0/25	GigabitEthernet 1/0/22
	GigabitEthernet 1/0/26	GigabitEthernet 1/0/24
	GigabitEthernet 1/0/27	GigabitEthernet 1/0/21
	GigabitEthernet 1/0/28	GigabitEthernet 1/0/23
HP A5500-48G EI (2 slots) HP A5500-48G EI TAA (2 slots) HP A5500-48G-PoE+ EI (2 slots) HP A5500-48G-PoE+ EI TAA (2 slots)	GigabitEthernet 1/0/49	GigabitEthernet 1/0/46
	GigabitEthernet 1/0/50	GigabitEthernet 1/0/48
	GigabitEthernet 1/0/51	GigabitEthernet 1/0/45
	GigabitEthernet 1/0/52	GigabitEthernet 1/0/47
HP A5500-24G-SFP EI (2 slots) HP A5500-24G-SFP EI TAA (2 slots)	GigabitEthernet 1/0/17	GigabitEthernet 1/0/25
	GigabitEthernet 1/0/18	GigabitEthernet 1/0/26
	GigabitEthernet 1/0/19	GigabitEthernet 1/0/27
	GigabitEthernet 1/0/20	GigabitEthernet 1/0/28
	GigabitEthernet 1/0/21	GigabitEthernet 1/0/29
	GigabitEthernet 1/0/22	GigabitEthernet 1/0/30
	GigabitEthernet 1/0/23	GigabitEthernet 1/0/31
	GigabitEthernet 1/0/24	GigabitEthernet 1/0/32

Software features

Table 9 Software features

Feature	HP A5500-24G EI (2 slots) HP A5500-24G EI TAA (2 slots) HP A5500-24G-SFP EI (2 slots) HP A5500-24G-SFP EI TAA (2 slots)	HP A5500-48G EI (2 slots) HP A5500-48G EI TAA (2 slots)	HP A5500-24G-PoE+ EI (2 slots) HP A5500-24G-PoE+ EI TAA (2 slots)	HP A5500-48G-PoE+ EI (2 slots) HP A5500-48G-PoE+ EI TAA (2 slots)
Switching capacity (Full duplex)	128 Gbps	176 Gbps	128 Gbps	176 Gbps
Packet forwarding rate	95.2 Mpps	130.9 Mpps	95.2 Mpps	130.9 Mpps
Power over Ethernet	Not supported		Supported	
Link aggregation	Aggregation of GE ports Aggregation of 10-GE ports Static link aggregation Dynamic link aggregation Supports up to 128 aggregation groups, each supporting up to eight GE ports or eight 10-GE ports Supports local-first load sharing for link aggregation Supports configuring load sharing criteria for IRF links			
IRF	Supported			
IRF MAD Detection	LACP MAD ARP MAD BFD MAD			
Flow control	IEEE 802.3x flow control and back pressure			
Jumbo Frame	Supports maximum frame size of 9 KB			
MAC address table	32K MAC addresses 1K static MAC addresses Blackhole MAC addresses MAC address learning limit on a port			
VLAN	Port-based VLANs (4094 VLANs) QinQ and selective QinQ Voice VLAN Protocol-based VLANs MAC-based VLANs IP subnet-based VLANs GVRP Isolate User VLAN			
VLAN mapping	One-to-one VLAN mapping Many-to-one VLAN mapping Two-to-two VLAN mapping			

Feature	HP A5500-24G EI (2 slots) HP A5500-24G EI TAA (2 slots) HP A5500-24G-SFP EI (2 slots) HP A5500-24G-SFP EI TAA (2 slots)	HP A5500-48G EI (2 slots) HP A5500-48G EI TAA (2 slots)	HP A5500-24G-PoE+ EI (2 slots) HP A5500-24G-PoE+ EI TAA (2 slots)	HP A5500-48G-PoE+ EI (2 slots) HP A5500-48G-PoE+ EI TAA (2 slots)
ARP	8K entries 1K static entries Gratuitous ARP Standard proxy ARP and local proxy ARP ARP source suppression ARP detection (based on static IP source guard binding Entries/DHCP snooping entries/802.1X security entries/OUI MAC addresses) ARP filtering			
ND	4K entries 1K static entries ND proxy ND detection ND snooping			
VLAN virtual interface	1K			
IPv4 DHCP	DHCP client DHCP snooping DHCP relay agent DHCP server			
IPv6 DHCP	IPv6 DHCP snooping IPv6 DHCP client IPv6 DHCP relay agent IPv6 DHCP server			
UDP Helper	UDP helper			
DNS	Dynamic domain name resolution Dynamic domain name resolution client IPv4/IPv6 addresses			
IPv4 route	4K static routes RIP v1/2; up to 2K IPv4 routes OSPF v1/v2; up to 12K IPv4 routes BGP; up to 12K IPv4 routes ISIS; up to 12K IPv4 routes Eight equal-cost routes Routing policy VRRP (supports standard mode and load balancing mode) Policy based routing			

Feature	HP A5500-24G EI (2 slots) HP A5500-24G EI TAA (2 slots) HP A5500-24G-SFP EI (2 slots) HP A5500-24G-SFP EI TAA (2 slots)	HP A5500-48G EI (2 slots) HP A5500-48G EI TAA (2 slots)	HP A5500-24G-PoE+ EI (2 slots) HP A5500-24G-PoE+ EI TAA (2 slots)	HP A5500-48G-PoE+ EI (2 slots) HP A5500-48G-PoE+ EI TAA (2 slots)
IPv6 route	1K static routes RIPng; up to 2K IPv6 routes OSPF v3; up to 6K IPv6 routes BGP4+ for IPv6; up to 6K IPv6 routes ISIS for IPv6;up to 6K IPv6 routes Eight equal-cost routes Routing policy VRRP (supports standard mode and load balancing mode) Policy based routing Authenticating RIPng packets by using an IPsec policy Authenticating OSPFv3 packets by using an IPsec policy Authenticating IPv6 BGP packets by using an IPsec policy			
URPF	Supported			
MCE	Unicast Multicast			
BFD	OSPF BGP IS-IS Static route			
IPv6 over IPv4 Tunnel	IPv6 manual tunnel 6to4 tunnel ISATAP tunnel			
IPv4 multicast	IGMP snooping v1/v2/v3 Multicast VLAN Multicast VLAN+ IGMP v1/v2/v3 PIM-DM PIM-SM PIM-SSM MSDP Multicast BGP BIDIR-PIM Configuring static multicast MAC address entries Configuring a multicast user control policy			

Feature	HP A5500-24G EI (2 slots) HP A5500-24G EI TAA (2 slots) HP A5500-24G-SFP EI (2 slots) HP A5500-24G-SFP EI TAA (2 slots)	HP A5500-48G EI (2 slots) HP A5500-48G EI TAA (2 slots)	HP A5500-24G-PoE+ EI (2 slots) HP A5500-24G-PoE+ EI TAA (2 slots)	HP A5500-48G-PoE+ EI (2 slots) HP A5500-48G-PoE+ EI TAA (2 slots)
IPv6 multicast	MLD snooping v1/v2 MLD v1/v2 PIM-DM/SM/SSM/BIDIR-PIM for IPv6 IPv6 multicast VLAN IPv6 multicast VLAN+ MBGP for IPv6 Configuring an IPv6 multicast user control policy			
Broadcast/multicast/unicast storm control	Storm control based on port rate percentage PPS-based storm control Kbps-based storm control			
MSTP	STP/RSTP/MSTP protocol STP root guard BPDU guard			
RRPP	RRPP protocol Multi-instance RRPP			
Smart link	Up to 26 groups Multi-instance smart link			
Monitor link	Supported			
BPDU tunnel	CDP\DLDP\EOAM\GVRP\HGMP\LACP\LLDP\PAGP\PVST\STP\UDLD\VTP			
QoS/ACL	Restriction of the rates at which a port sends and receives packets, with a granularity of 64 kbps. Packet redirection Committed access rate (CAR), with a granularity of 64 kbps. Eight output queues for each port Flexible queue scheduling algorithms based on port and queue, including strict priority (SP), weighted round robin (WRR), WFQ(Weighted Fair Queuing), SP + WRR, WDRR, and WDRR+SP. Remarking of 802.1p and DSCP priorities Packet filtering at L2 (Layer 2) through L4 (Layer 4); flow classification based on source MAC address, destination MAC address, source IP (IPv4/IPv6) address, destination IP (IPv4/IPv6) address, port, protocol, and VLAN. Time range Weighted Random Early Detection (WRED) Traffic shaping Packet filtering Dynamically modifying QoS			
Mirroring	Traffic mirroring Port mirroring			
Remote mirroring	Remote port mirroring			

Feature	HP A5500-24G EI (2 slots) HP A5500-24G EI TAA (2 slots) HP A5500-24G-SFP EI (2 slots) HP A5500-24G-SFP EI TAA (2 slots)	HP A5500-48G EI (2 slots) HP A5500-48G EI TAA (2 slots)	HP A5500-24G-PoE+ EI (2 slots) HP A5500-24G-PoE+ EI TAA (2 slots)	HP A5500-48G-PoE+ EI (2 slots) HP A5500-48G-PoE+ EI TAA (2 slots)
Security	Hierarchical management and password protection of users AAA authentication RADIUS authentication HWTACACS SSH 2.0 Port isolation Port security MAC address authentication IP-MAC-port binding IP Source Guard (Including IPv4 and IPv6) HTTPS SSL PKI Portal EAD Boot ROM access control (password recovery) Local security authentication based on layer-2 Portal and RADIUS Triple authentication Portal stateful failover User profile			
802.1X	Up to 1,024 users Port-based and MAC address-based authentication Guest VLAN 802.1X-based dynamic QoS/ACL/VLAN delivery 802.1X re-authentication			
Download and upgrade	XModem FTP TFTP			

Feature	HP A5500-24G EI (2 slots) HP A5500-24G EI TAA (2 slots) HP A5500-24G-SFP EI (2 slots) HP A5500-24G-SFP EI TAA (2 slots)	HP A5500-48G EI (2 slots) HP A5500-48G EI TAA (2 slots)	HP A5500-24G-PoE+ EI (2 slots) HP A5500-24G-PoE+ EI TAA (2 slots)	HP A5500-48G-PoE+ EI (2 slots) HP A5500-48G-PoE+ EI TAA (2 slots)
Management	Configuration at the command line interface Remote configuration through Telnet Configuration through Console port Simple network management protocol (SNMP) Remote monitoring (RMON) alarm, event and history recording IMC Web-based network management System log Hierarchical alarms Huawei group management protocol (HGMP) v2 NTP Power supply alarms Fan and temperature alarms			
Maintenance	Debugging information output Ping and Tracert NQA Track Virtual cable test CFD (IEEE 802.1ag and ITU-T Y.1731) Ethernet OAM (IEEE 802.3ah) DLDP ISSU sFlow			
Energy saving	Port auto-power-down Configuring scheduled tasks Regulating fan speed according to temperature			

Appendix B Upgrading software

You can access the Boot menu or CLI to download a system software image (in .bin format) or a Boot ROM image (in .btm format) to Flash memory by using XMODEM, TFTP, or FTP.

Table 10 Approaches to upgrading software

Approach	Section
Upgrading at the Boot menu	XMODEM download through the console port
	TFTP download through an Ethernet port
	FTP download through an Ethernet port
Upgrading at the CLI	FTP download from a server
	TFTP download from a server

IMPORTANT:

When upgrading software, make sure that the versions of the Boot ROM and system software images are compatible.

Upgrading at the Boot menu

Accessing the Boot menu

Power on the switch, for example, an HP A5500-24G EI (2 slots) switch, and you can see the following information:

```
Starting......

******************************************************************************
*                                                                            *
*      HP A5500-24G EI Switch with 2 Interface Slots BOOTROM, Version 707    *
*                                                                            *
******************************************************************************
       Copyright (c) 2010-2011 Hewlett-Packard Development Company, L.P.
       Creation date   : May 16 2011, 11:11:51
       CPU Clock Speed : 533MHz
       BUS Clock Speed : 133MHz
       Memory Size     : 256MB
       Mac Address     : 000fe5552000


Press Ctrl-B to enter Boot Menu... 1
```

Press **Ctrl** + **B** at the prompt within the required time limit.

```
Password:
```

NOTE:

he system by default starts up in fast mode, and you must press **Ctrl + B** within one second to access the Boot enu. In full startup mode, you must press **Ctrl + B** within five seconds to access the Boot menu.

you fail to press **Ctrl + B** within the time limit, the system starts decompressing files, and you must restart the witch to access the Boot menu.

At the prompt, enter the Boot ROM password. If no Boot ROM password has been set (the default), press **Enter** to access the Boot menu:

```
        BOOT  MENU

1. Download application file to flash
2. Select application file to boot
3. Display all files in flash
4. Delete file from flash
5. Modify bootrom password
6. Enter bootrom upgrade menu
7. Skip current configuration file
8. Set bootrom password recovery
9. Set switch startup mode
0. Reboot

Enter your choice(0-9):
```

Table 11 Boot menu options

Item	Description
1. Download application file to flash	Download a system software image file to the Flash memory.
2. Select application file to boot	Select the system software image file to boot.
3. Display all files in flash	Display all files in the Flash memory.
4. Delete file from flash	Delete files from the Flash memory.
5. Modify bootrom password	Modify the Boot ROM password.
6. Enter bootrom upgrade menu	Access the Boot ROM update menu.
7. Skip current configuration file	Start the switch with the factory default configuration. This is a one-time operation and does not take effect at the next reboot. You use this option when you forget the console login password.
8. Set bootrom password recovery	Disable or enable the Boot ROM password recovery function. By default, Boot ROM recovery is enabled. You can disable this function to protect system security.
9. Set switch startup mode	Set the startup mode to full mode or fast mode.
0. Reboot	Restart the switch.

NOTE:

The procedure of upgrading Boot ROM is the same as upgrading system software. This guide takes upgrading Boot ROM as an example.

XMODEM download through the console port

You can connect a PC or terminal to the console port to download files to the switch by using XMODEM. XMODEM supports 128-byte data packets and provides the reliability mechanisms including checksum, CRC, and retransmissions (up to 10).

Setting terminal parameters

Run a terminal emulator program on the console terminal, for example, a PC.

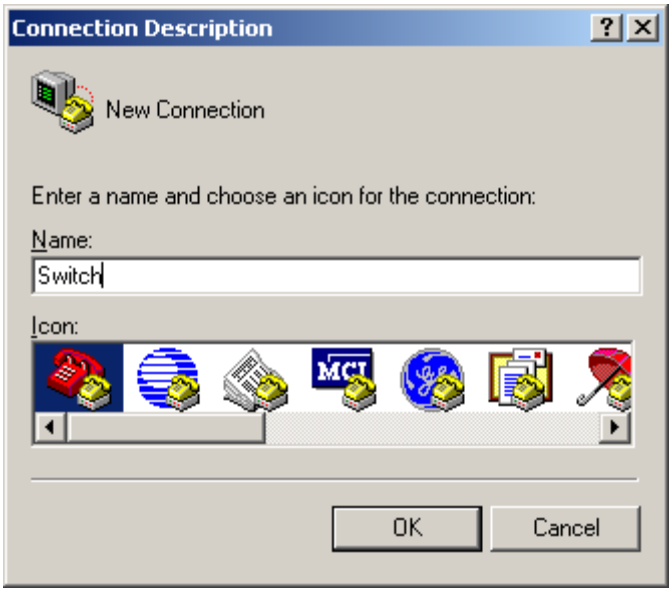
The following are the required terminal settings:

- Bits per second—9,600
- Data bits—8
- Parity—None
- Stop bits—1
- Flow control—None
- Emulation—VT100

Follow these steps to set terminal parameters, for example, on a Windows XP HyperTerminal:

Step1 Select **Start** > **All Programs** > **Accessories** > **Communications** > **HyperTerminal**, and in the **Connection Description** dialog box that appears, type the name of the new connection in the **Name** text box and click **OK**.

Figure 1 Connection description of the HyperTerminal

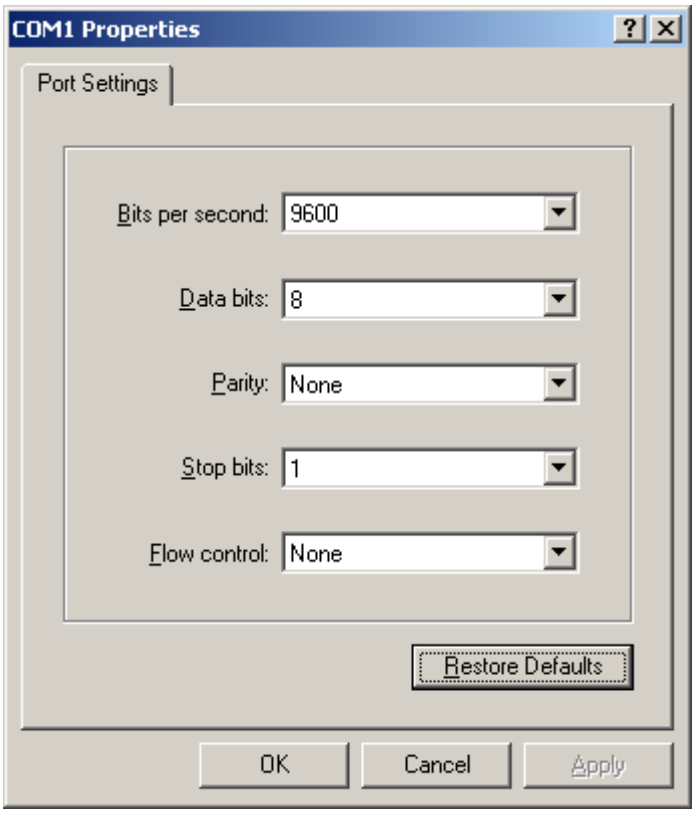


Step2 Select the serial port to be used from the **Connect using** drop-down list, and click **OK**.

Figure 2 Set the serial port used by the HyperTerminal connection

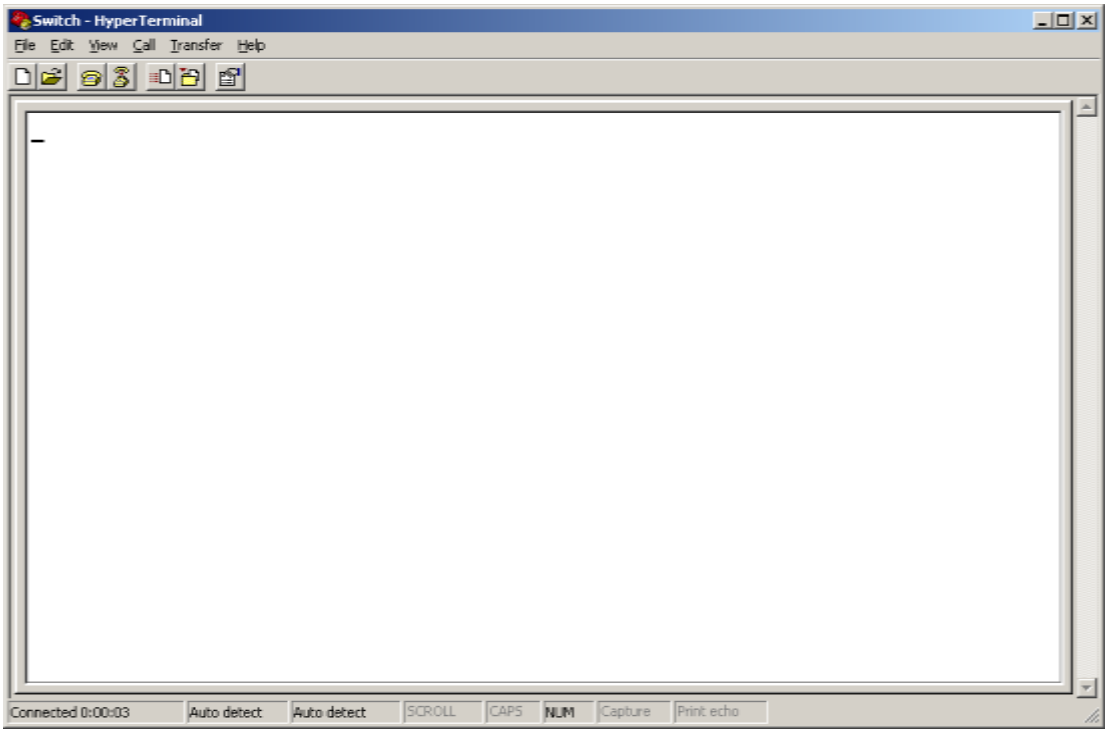
Step3 Set **Bits per second** to **9600**, **Data bits** to **8**, **Parity** to **None**, **Stop bits** to **1**, and **Flow control** to **None**, and click **OK**.

Figure 3 Set the serial port parameters



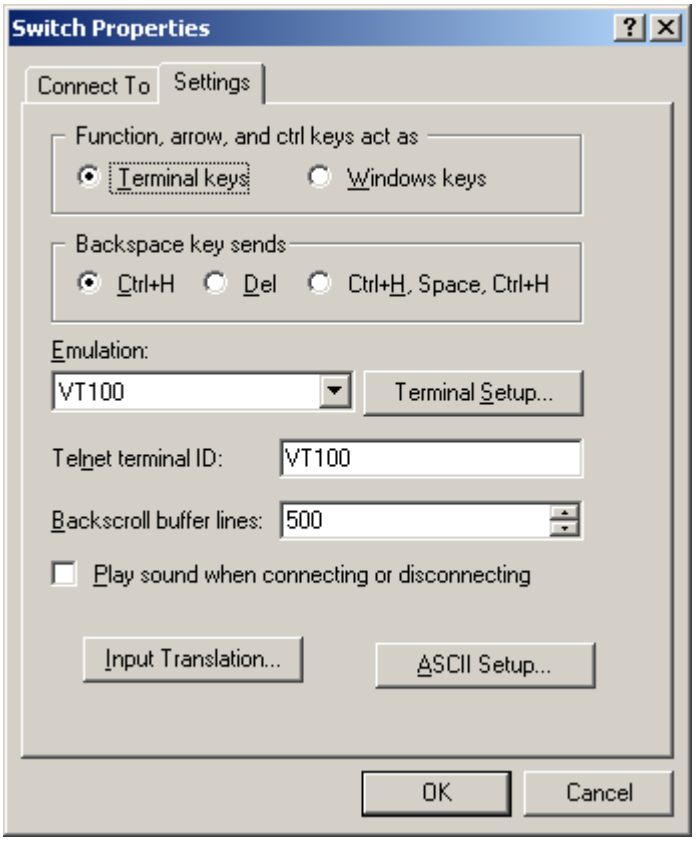
Step4 Select **File** > **Properties** in the HyperTerminal window.

Figure 4 HyperTerminal window



Step5 Click the **Settings** tab, set the emulation to **VT100**, and click **OK** in the **Switch Properties** dialog box.

Figure 5 Set terminal emulation in Switch Properties dialog box



Upgrading Boot ROM

Perform the following tasks to upgrade Boot ROM by using XMODEM through the console port:

1. Enter **6** or press **Ctrl** + **U** at the Boot menu to access the Boot ROM update menu:

```
Bootrom update menu:
1. Set TFTP protocol parameter
2. Set FTP protocol parameter
3. Set XMODEM protocol parameter
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
Enter your choice (0-5):
```

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
```

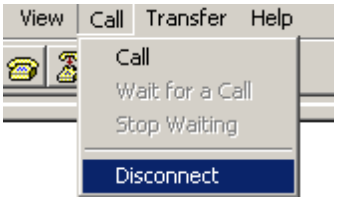
NOTE:

Typically the size of a .bin file is over 10 MB. Even at a baud rate of 115200 bps, the download takes tens of minutes.

4. Set the serial port on the terminal to use the same baud rate and protocol as the console port. If you select 9600 bps as the download rate for the console port, skip this task.

Step6 Select **Call** > **Disconnect** in the HyperTerminal window to disconnect the terminal from the switch.

Figure 6 Disconnect the terminal from the switch



Step7 Select **File** > **Properties**. In the **Properties** dialog box, click **Configure** (see Figure 7), and then select **115200** from the **Bits per second** drop-down list box (see Figure 8).

Figure 7 Properties dialog box

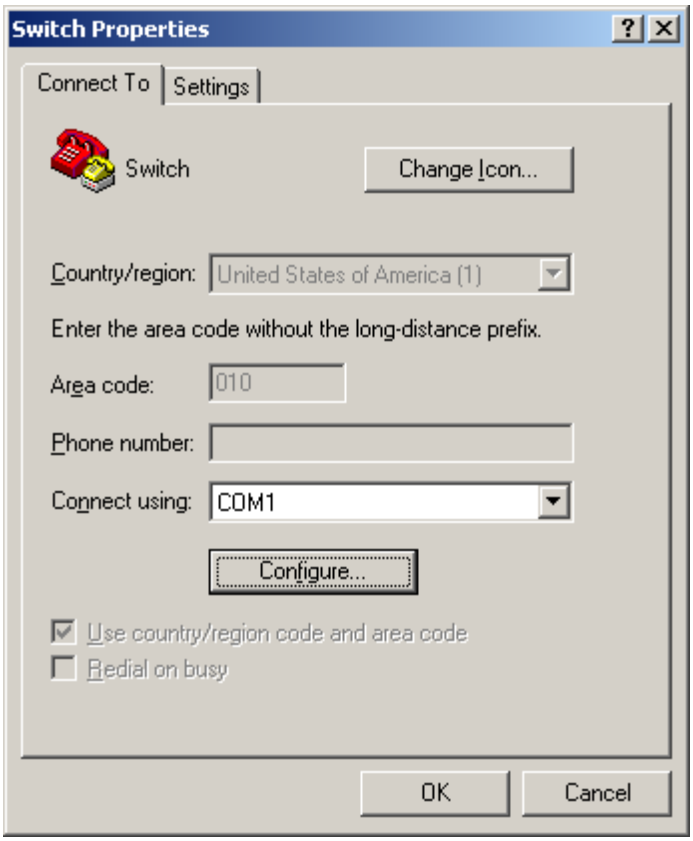
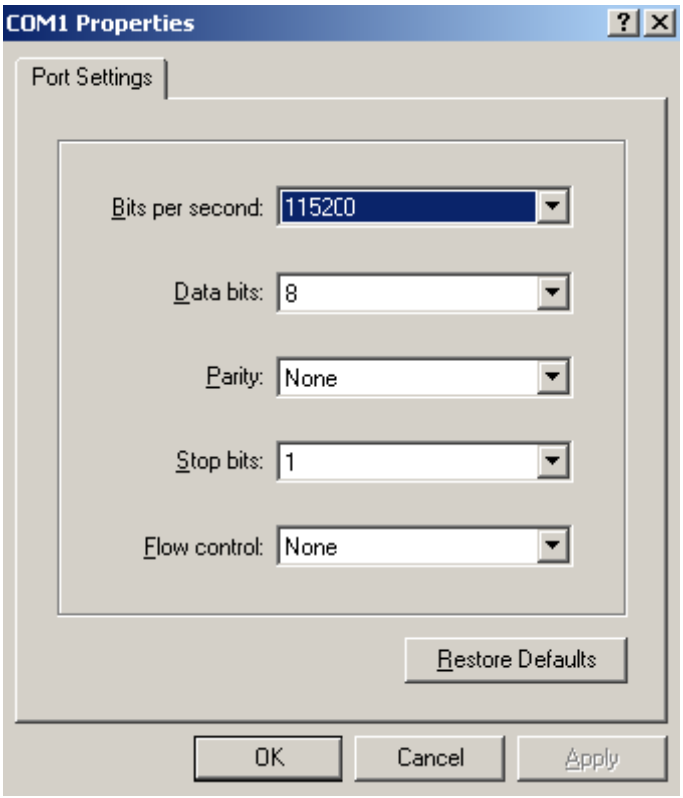
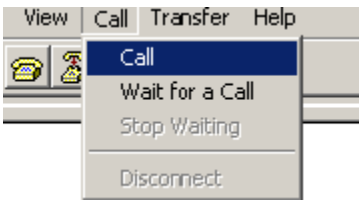


Figure 8 Modify the baud rate



Step8 Select **Call** > **Call** to reestablish the connection.

Figure 9 Reestablish the connection



NOTE:

The new settings take effect after you reestablish the connection.

5. Upload the software package file from the terminal to the switch.

Step1 After establishing a connection between the terminal and the switch, press **Enter** in the HyperTerminal window.

CCCCCCCCCCCCCCCCC

NOTE:

To abort the downloading, press **Ctrl** + **X**.

Step2 Select **Transfer** > **Send File** in the HyperTerminal window (see Figure 10), and click **Browse** in the pop-up dialog box (see Figure 11) to select the source file (for example, **bootrom.btm**), and select **Xmodem** from the **Protocol** drop-down list.

Figure 10 Transfer menu

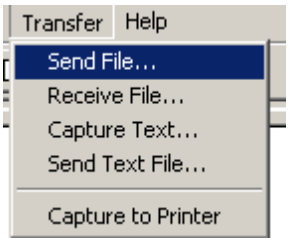
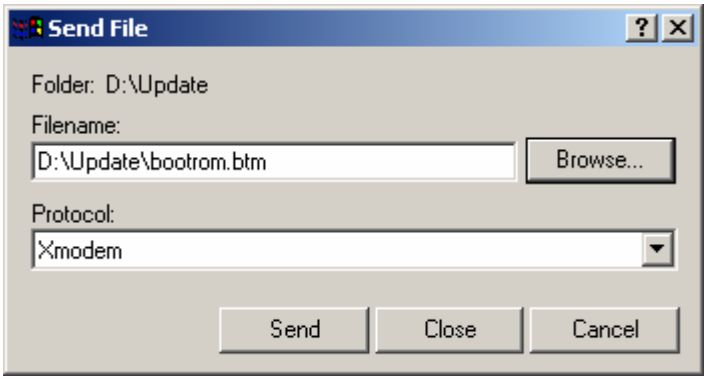
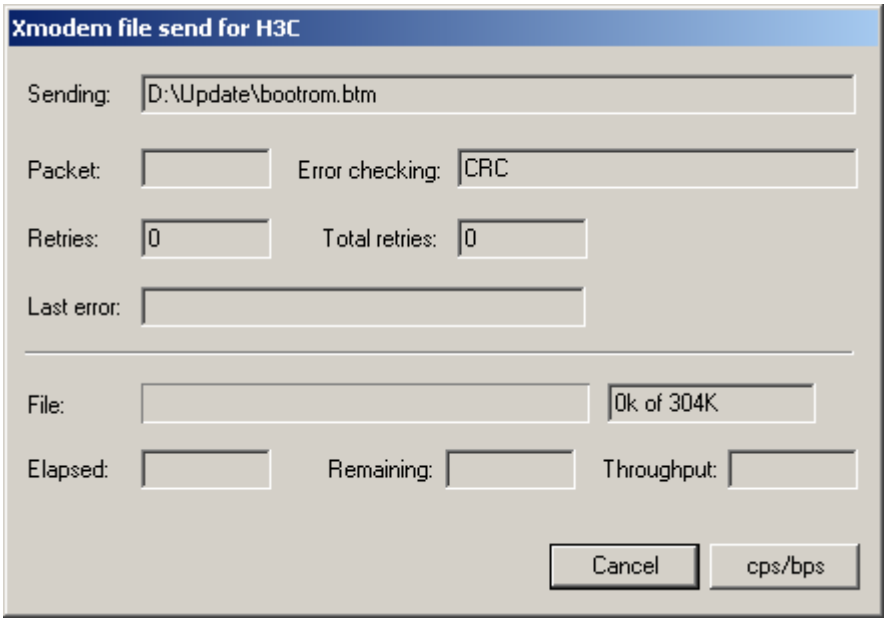


Figure 11 File transmission dialog box



Step3 Click **Send**. The following dialog box appears:

Figure 12 Send the application file using XMODEM



When the download is completed, the terminal displays the following information:

```
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCdone!
Bootrom updating..........done!

Your baudrate should be set to 9600 bps again!
Press enter key when ready
```

6. If you are using a download rate other than 9600 bps, restore the baud rate of the serial port on the terminal to 9600 bps. If the baud rate is 9600 bps, skip this step.
7. Press **Enter** to return to the Boot menu and enter **0** to restart the switch so the updated image can take effect.

```
  BOOT  MENU

1. Download application file to flash
2. Select application file to boot
3. Display all files in flash
4. Delete file from flash
5. Modify bootrom password
6. Enter bootrom upgrade menu
7. Skip current configuration file
8. Set bootrom password recovery
9. Set switch startup mode
0. Reboot

Enter your choice(0-9):
```

Upgrading system software

To upgrade system software, enter **1** at the Boot menu, and the following menu appears:

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

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

Enter **3** to set the XMODEM parameters for downloading the system software image.

The subsequent procedure is the same as loading Boot ROM images, except that you must set the attribute of the file as **main**, **backup**, or **none** to complete the file loading.

```
Please input a new file name           :update.bin
Free flash Space: 15598592 bytes
Writing flash.....................................................................
.....................................................................
.....................................................................
.....................................................................
.....................................................................
.....................................................................
.........................done!
Please input the file attribute (main/backup/none):main
done!
```

NOTE:

he switch always attempts to boot first with the main file, and if the attempt fails, for example, because the ıain file is not available, the switch tries to boot with the backup file. A file with the **none** attribute is just ‘ored in Flash memory for backup and you must change its attribute to make it usable at reboot.

a file with the same attribute as the file you are loading is already in the Flash memory, the attribute of the ld file changes to **none** after the new file becomes valid.

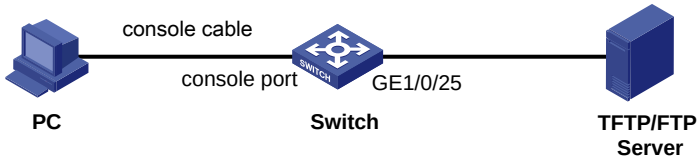
TFTP download through an Ethernet port

The switch can work as a TFTP client to download files from a TFTP server.

Upgrading Boot ROM

1. Connect an Ethernet port (for example, GigabitEthernet 1/0/25) of the switch to the server and connect the console port of the switch to a PC (see Figure 13).

Figure 13 Load software using TFTP/FTP through Ethernet port



NOTE:

he PC and the TFTP/FTP server can be co-located.

he A5500 EI switches do not come with any TFTP server program, and you must install one yourself.

2. Run the TFTP server program on the server and specify the source file path.
3. Run a terminal emulator program on the PC, power on the switch, access the Boot menu, and enter **6** to access the Boot ROM update menu:

```
Bootrom update menu:
1. Set TFTP protocol parameter
2. Set FTP protocol parameter
3. Set XMODEM protocol parameter
0. Return to boot menu

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

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

```
Load File Name     :update.btm
Switch IP address        :10.10.10.3
Server IP address        :10.10.10.2
```

Table 12 Description of the TFTP parameters

Item	Description
Load File Name	Name of the file to be downloaded (for example, **update.btm**)

Switch IP address	IP address of the switch (for example, 10.10.10.3)
Server IP address	IP address of the TFTP server (for example, 10.10.10.2)

NOTE:

The switch must be on the same subnet as the server.

5. Enter all required parameters.

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

Enter **Y** at the prompt to upgrade Boot ROM.

```
Loading.....................................done
Bootrom updating..........done!


  BOOT  MENU

1. Download application file to flash
2. Select application file to boot
3. Display all files in flash
4. Delete file from flash
5. Modify bootrom password
6. Enter bootrom upgrade menu
7. Skip current configuration file
8. Set bootrom password recovery
9. Set switch startup mode
0. Reboot

Enter your choice(0-9):
```

6. Enter **0** to restart the switch from the Boot menu so the upgraded Boot ROM can take effect.

Upgrading system software

To upgrade system software, enter **1** at the Boot menu to access the following menu:

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

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

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

The subsequent procedure of is the same as upgrading Boot ROM, except that you must set the attribute of the file as **main**, **backup**, or **none** to complete the file loading.

```
Writing flash...............................................................
...............Done!
Please input the file attribute (Main/Backup/None) Main
Done!
```

NOTE:

he switch always attempts to boot first with the main file, and if the attempt fails, for example, because the ıain file is not available, the switch tries to boot with the backup file. A file with the **none** attribute is just ‘ored in Flash memory for backup and you must change its attribute to make it usable at reboot.

a file with the same attribute as the file you are loading is already in the Flash memory, the attribute of the ld file changes to **none** after the new file becomes valid.

FTP download through an Ethernet port

The switch can work as an FTP server or FTP client to download files through an Ethernet port. This section uses the switch as an FTP client to describe the procedure.

Upgrading Boot ROM

NOTE:

When upgrading Boot ROM, the switch can work only as an FTP client.

1. Connect an Ethernet port (GigabitEthernet 1/0/25, for example) of the switch to the server and connect the console port of the switch to a PC (see Table 11 Figure 13).
2. Run an FTP server program on the server, configure an FTP username and password, and specify the source file path.
3. Run a terminal emulator program on the PC, power on the switch, access the Boot menu, and enter **6** to access the Boot ROM update menu:

```
Bootrom update menu:

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

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

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

```
Load File name     :update.btm
Switch IP address   :10.10.10.3
Server IP address  :10.10.10.2
FTP User Name      :A5500EI
FTP User Password  :123
```

Table 13 Description of the FTP parameters

Item	Description
Load File name	Name of the file to be downloaded (for example, **update.btm**)
Switch IP address	IP address of the switch (for example, 10.10.10.3)
Server IP address	IP address of the FTP server (for example, 10.10.10.2)

Item	Description
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:

The switch must be on the same subnet as the server.

5. Enter all required parameters.

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

Enter **Y** at the prompt to upgrade Boot ROM.

```
Loading.....................................done
Bootrom updating..........done!


  BOOT  MENU

1. Download application file to flash
2. Select application file to boot
3. Display all files in flash
4. Delete file from flash
5. Modify bootrom password
6. Enter bootrom upgrade menu
7. Skip current configuration file
8. Set bootrom password recovery
9. Set switch startup mode
0. Reboot

Enter your choice(0-9):
```

6. Enter **0** to restart the switch from the Boot menu so the upgraded Boot ROM can take effect.

Upgrading system software

To upgrade system software, enter **1** at the Boot menu to access the following menu:

```
1. Set TFTP protocol parameter
2. Set FTP protocol parameter
3. Set XMODEM protocol parameter
0. Return to boot menu
Enter your choice(0-3):3
```

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

The subsequent procedure is the same as upgrading Boot ROM, except that you must set the attribute of the file as **main**, **backup**, or **none** to complete the file loading.

```
Writing flash...............................................................
.............Done!
Please input the file attribute (Main/Backup/None) M
```

```
Done!
```

NOTE:

he switch always attempts to boot first with the main file, and if the attempt fails, for example, because the ıain file is not available, the switch tries to boot with the backup file. A file with the **none** attribute is just ‘ored in Flash memory for backup and you must change its attribute to make it usable at reboot.

a file with the same attribute as the file you are loading is already in the Flash memory, the attribute of the ld file changes to **none** after the new file becomes valid.

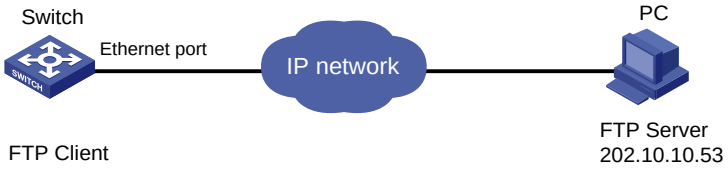
Upgrading at the CLI

You can remotely download Boot ROM and system software images at the CLI.

FTP download from a server

This section uses the topology in Figure 14 as an example. Run FTP server on the management PC at 202.10.10.53, create an FTP username **admin** and password, specify the source file path, telnet to the switch, and get the system software image file **update.bin** and the Boot ROM image file **update.btm** from the server.

Figure 14 FTP download from a server



Step4 Get the files to the switch by using FTP.

```
<HP> ftp 202.10.10.53
Trying ...
Press CTRL+K to abort
Connected.
220 WFTPD 2.0 service (by Texas Imperial Software) ready for new user
User(none):A5500
331 Give me your password, please
Password:
230 Logged in successfully
[ftp] get update.bin
[ftp] get update.btm
[ftp] bye
```

Step5 Upgrade Boot ROM.

```
<HP> bootrom update file update.btm slot 1
 This command will update BootRom file, Continue? [Y/N]y
 Now Updating bootrom, please wait...
```

```
Succeeded to upgrade bootrom of board 1
```

Step6 Load the system software image and specify the file as the main file at the next reboot.

```
<HP> boot-loader file update.bin slot 1 main
  This command will set the boot file. Continue? [Y/N]: y
  The specified file will be used as the main boot file at the next reboot on slot 1!
<HP> display boot-loader
 The current boot app is:  flash:/ update.bin
 The main boot app is:     flash:/ update.bin
 The backup boot app is:   flash:/ update.bin
```

Step7 Reboot the switch with the **reboot** command to complete the upgrade.

CAUTION:

you have made any configuration, save the configuration before the reboot to avoid data loss.

\void power failure during the loading process.

TIP:

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.

TFTP download from a server

The switch can work as a TFTP client to download files from a TFTP server, and the downloading procedure is similar to downloading files through FTP. With these two protocols, the subsequent Boot ROM and system software image loading procedures are the same.