

# H3C S6300-CMW710-R2310 Release Notes

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This document describes the features, restrictions and guidelines, open problems, and workarounds for version S6300-CMW710-R2310. 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 H3C S6300-CMW710-R2310 Release Notes (Software Feature Changes) and the documents listed in "[Related documentation](#)."

## Version information

### Version number

H3C Comware Software, Version 7.1.045, Release 2310

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
S6300-CMW710-R2310	S6300-CMW710-E2309	2014-5-23	Release version	New features Modifies features Fixes bugs
S6300-CMW710-E2309	First release	2014-3-17	ESS version	None

## Hardware and software compatibility matrix

Table 2 Hardware and software compatibility matrix

Item	Specifications
Product family	S6300 Series
Hardware platform	S6300-42QF
	S6300-42QT
	S6300-48S
	S6300-52QF
Minimum memory requirements	2 GB
Minimum Flash requirements	512 M

Item	Specifications
Boot ROM version	Version 132 or higher (Note: Use the <b>display version</b> command in any view to view the version information. Please see Note②)
Host software	S6300-CMW710-R2310.ipe
iMC version	iMC PLAT 7.0 (E0202P02) iMC QoS 7.0 (E0201) iMC VCM 7.0 (E0201) iMC UBA 7.0 (E0201) iMC NTA 7.0 (E0201) iMC EAD 7.0 (E0201) iMC EIA 7.0 (E0201) iMC SDNM 7.0 (E0201)
iNode version	iNode PC 7.0 (E0202P01)
Web version	None
Remarks	None

#### Display the system software and Boot ROM versions of S6300:

```

<H3C> display version
H3C Comware Software, Version 7.1.045, Release 2310          ----- 注①
Copyright (c) 2004-2014 Hangzhou H3C Tech. Co., Ltd. All rights reserved.
H3C S6300-42QF uptime is 0 weeks, 0 days, 0 hours, 9 minutes
Last reboot reason : User reboot

Boot image: flash:/s6300-cmw710-boot-r2310.bin
Boot image version: 7.1.045P13, Release 2310
  Compiled May 23 2014 17:49:14
System image: flash:/s6300-cmw710-system-r2310.bin
System image version: 7.1.045, Release 2310
  Compiled May 23 2014 17:49:24

Slot 1
H3C S6300-42QF with 2 Processors
Last reboot reason : User reboot
2048M bytes SDRAM
4M bytes Nor Flash Memory
512M bytes Nand Flash Memory
Config Register points to Nand Flash

Hardware Version is Ver.B
CPLDA Version is 002, CPLDB Version is 002
BootRom Version is 132          ----- 注②
[SubSlot 0] 40SFP Plus+2QSFP Plus Hardware Version is Ver.B

```

# ISSU compatibility list

Table 3 ISSU compatibility list

Current version	Earlier version	Compatibility
S6300-CMW710-R2310	S6300-CMW710-E2309	Yes

## Upgrading restrictions and guidelines

None.

## Hardware feature updates

### S6300-CMW710-R2310

None.

### S6300-CMW710-E2309

First release.

## Software feature and command updates

For more information about the software feature and command update history, see H3C S6300-CMW710-R2310 Release Notes (Software Feature Changes).

## MIB Updates

Table 4 MIB updates

Item	MIB file	Module	Description
<b>S6300-CMW710-R2310</b>			
New	None	None	None
Modified	hh3c-trap.mib	HH3C-TRAP-MIB	For detailed information, see < Comware V7
	lldp-ext-dot1-v2.mib	LLDP-EXT-DOT1-V2-MIB	
	hh3c-entity-ext.mib	HH3C-ENTITY-EXT-MIB	

Item	MIB file	Module	Description
	hh3c-lsw-dev-adm.mib	HH3C-LSW-DEV-ADM-MIB	S6300&5700 MIB Companion(R2310).do cx>
<b>S6300-CMW710-E2309</b>			
New	First release	First release	First release
Modified	First release	First release	First release

## Operation Changes

### Operation changes in R2310

- Added support for both Ctrl+D and Ctrl+C to quit automatic configuration:  
Before modification, the command for quitting automatic configuration is Ctrl+D in E2309.  
After modification, both Ctrl+C and Ctrl+D for quitting automatic configuration are supported.
- Changed the default transfer mode for the FTP client from ASCII to Binary.
- Added support for carrying multiple values in the level attribute assigned by the login server:  
Before modification, the level attribute assigned by the login server carries no or one value.  
After modification, the level attribute assigned by the login server carries multiple values.
- Changed ARP/ND learning method for private VLAN:  
Before modification, ARP/ND entries are learned in the secondary VLAN.  
After modification, ARP/ND entries are learned in the primary VLAN.

### Operation changes in E2309

First release.

## Restrictions and cautions

- If more than 7 VSANs are configured on a S6300 switch's VFC interface that connects to HP storage device, the S6300 switch cannot establish a connection to HP storage.  
Use one of the following methods to avoid this problem:
  - Change the default VLAN on the FCoE port of HP storage to a VLAN that is permitted by the connected port on the S6300 switch.

- Change the configuration on S6300 switch; configure one VSAN on the VFC interface that connects to HP storage device.

## Open problems and workarounds

### LSV7D008033

- Symptom: An SSH connection cannot be terminated by using the compound key CTRL+C or CTRL+K.
- Condition: This symptom occurs when you use the compound key CTRL+C or CTRL+K to terminate a connection to the SSH server.
- Workaround: None.

### 201404300315/201404300303/201405150530/201405090318

- Symptom: After an ISSU, the VSI connected to the CAS server goes offline and cannot come online again. The switch displays that the VSI comes online but the CAS server displays that the VSI has been offline.
- Condition: This symptom occurs after an ISSU.
- Workaround: None.

## List of resolved problems

### Resolved problems in R2310

#### 201401220221

- Symptom: The MAC address moving suppression function does not take effect in an IRF fabric.
- Condition: This symptom occurs when the two member devices of the IRF fabric successively receive broadcast traffic with the same source MAC address.

#### 201403120408

- Symptom: When all nodes are logged out, the output from the **display fip-snooping rules enode** command shows that no ENode FIP snooping rules exist. However, the output from the **display qos-acl resource** command shows that the number of ACL rules used is more than that in the initial state.
- Condition: This symptom occurs when the following conditions exist:
  - The switch is operating in Transit mode.
  - A large number of nodes are logged in and logged out repeatedly.
  - The following tasks are repeatedly performed on the switch:



- Shutting down and bringing up ports.
- Adding and deleting VLANs.
- Assigning ports to and removing ports from VLANs.

### 201403190173

- Symptom: In the output from the **display qos-ad resource** command, the VFP ACL or IFP ACL usage might exceed 100%.
- Condition: This symptom might occur when the following procedure is performed:
  - a. Use the **system-working-mode** command to configure the system working mode as AdvancedBridge.
  - b. Configure the private VLAN feature.
  - c. Configure local QoS ID marking actions or flow-based VLAN marking actions in QoS policies to occupy all VFP resources, or configure QoS policies or packet filtering to occupy all IFP resources.

### 201404280257

- Symptom: Some OpenFlow flow tables might fail to forward traffic.
- Condition: This symptom might occur when a large number of OpenFlow flow tables are deployed in batch.

### 201403240344

- Symptom: The switch fails to forward traffic for multiple multicast groups.
- Condition: This symptom occurs when the switch has large numbers of multicast forwarding entries.

### 201403270410

- Symptom: After a VLAN interface is shutdown, the multicast forwarding entries that use the VLAN interface are not deleted.
- Condition: This symptom occurs if the VLAN of the shutdown VLAN interface contains a multicast member port that is also a member port of an aggregation group.

### 201403240159

- Symptom: The MAC addresses learned by UNI ports involved in many-to-one VLAN mapping cannot be displayed on a per-port basis.
- Condition: This symptom occurs when the **display mac-address interface** command is used to display the MAC addresses learned by an UNI port involved in many-to-one VLAN mapping.

### 201403250492

- Symptom: If static bindings are configured by using the **ip source bind** or **ipv6 source bind** command in Layer 2 Ethernet port view when ACL resources are insufficient, the system does not provide prompt information. The output from the **display current-configuration** command in system view or the **display this** command in port view shows the configured static bindings.

- Condition: This symptom occurs if static bindings are configured by using the **ip source bind** or **ipv6 source bind** command in Layer 2 Ethernet port view when ACL resources are insufficient.

### 201403190115

- Symptom: When a new FC ID is assigned to a node, the destination MAC address in the FIP snooping rule for the node is incorrect.
- Condition: This symptom might occur when the following procedure is performed:
  - a. Perform a master/subordinate switchover for an IRF fabric.
  - b. Reregister the node.

### 201402270049

- Symptom: An IRF member switch stops running during startup.
- Condition: This symptom occurs if continual IRF master/subordinate switchovers and reboots are performed.

### 201403200085

- Symptom: After the switch has run a scheduled task, the system log shows that the IRF port fails to receive IRF packets from the neighbor. A system reboot might occur.
- Condition: This symptom might occur when the following conditions exist:
  - IRF continually processes traffic.
  - The scheduled task executes the **display diagnostic-information** command.

### 201402170013

- Symptom: IMC cannot Telnet to a S6300 switch directly connected to a disk device.
- Condition: This symptom might occur when the following conditions exist:
  - IMC continuously Telnet to the S6300 switch.
  - Zones are distributed multiple times on the S6300/S12500-X switches in the FC fabric.

### 201401170113

- Symptom: After a master/subordinate switchover occurs to an IRF fabric, packets that match the static IPv6 routes deployed by an OpenFlow controller cannot be correctly forwarded.
- Condition: This symptom might occur when the following procedure is performed:
  - a. Configure OpenFlow, and deploy IPv6 static routes and the corresponding ND entries.
  - b. Perform a master/subordinate switchover for the IRF fabric.

### 201403010153

- Symptom: The effective value of the port status detection timer is 5 seconds greater than the configured value.
- Condition: This symptom might occur when the following conditions exist:
  - The port status detection timer is configured.
  - Ports are shut down by STP or DLDLP.

## 201403050301

- Symptom: During an incompatible ISSU on an IRF fabric that comprises more than two switches, executing the **run switchover** command fails to reboot the switch.
- Condition: This symptom can be seen after the **run switchover** command is executed during an incompatible ISSU on an IRF fabric that comprises more than two switches.

## 201312270486

- Symptom: In an IRF fabric, the dynamic flow table ages out after 60 seconds, and then traffic cannot be forwarded.
- Condition: This symptom might occur when the following conditions exist:
  - In an IRF fabric, an OpenFlow port is a multichassis aggregate interface.
  - The packet count is -- (which means that the packet count is not collected) in the flow table deployed.
  - Some of the aggregation group member ports receive traffic.

## 201403130400

- Symptom: If a process unexpectedly quits and a core file is generated, the switch unexpectedly reboots.
- Condition: This symptom occurs if a process unexpectedly quits and a core file is generated.

## 201404220072

- Symptom: A 6300 switch do not support the fastdown function for ports.
- Condition: This symptom occurs when the following procedure is performed:
  - a. Install transceiver modules in the fiber ports of a 6300 switch.
  - b. After these ports go up, remove optical fibers from the transceiver modules.

## 201403120423

- Symptom: The CPU usage of the FCSD process is higher than expected.
- Condition: This symptom occurs after the switch is started.

## 201403120229

- Symptom: The ports on an disk device are down.
- Condition: This symptom occurs when an disk device is connected to an FCoE-capable S6300 switch through a Nexus 5000 switch.

## 201403120101

- Symptom: The output from the **display port-security mac-address security** command shows that the remaining lifetime of some secure MAC addresses is 2 minutes when the aging timer for secure MAC addresses is set to 2 minutes by using the **port-security timer autolearn aging** command.
- Condition: This symptom occurs when the aging timer for secure MAC addresses is set to 2 minutes in autolearn mode by using the **port-security timer autolearn aging** command.

## 201403240356

- Symptom: The PTP interface information displayed on an IRF fabric that comprises two switches shows that time is not synchronized.
- Condition: This symptom can be seen when PTP is configured on an IRF fabric that comprises two switches.

## 201311140447

- Symptom: EVB fails to establish S channels on an IRF fabric.
- Condition: This symptom occurs if the following procedure is performed:
  - a. Configure EVB on the IRF fabric.
  - b. Perform an ISSU and an IRF master/subordinate switchover.
  - c. Save the configuration and reboot the IRF fabric.

## 201401020078

- Symptom: A S6300 switch sends a corrupted HTTP packet to IMC. IMC fails to detect that a VSI went offline.
- Condition: This symptom occurs when the following procedure is performed:
  - a. Bind the NIC of a VM to a dvportgroup on VMware vCenter. The VSI for the VM comes online.
  - b. Configure the VM to log off the VSI.
  - c. Configure the **debugging evb event** command on the switch.

## 201403310220

- Symptom: When VFC interface A is bound to a Layer 2 aggregate interface, VFC interface A goes down. Then, when VFC interface B is bound to the Layer 2 aggregate interface, VFC interface B goes up, but VFC interface A is still down.
- Condition: This symptom might occur when the following procedure is performed:
  - a. Bind VFC interfaces A and B to an Ethernet interface Port 1.
  - b. Create a Layer 2 aggregate interface, and assign Port 1 to the Layer 2 aggregate interface.

## 201403200111

- Symptom: Aggregation group member ports in Individual state might not learn MAC addresses, even after they leave the aggregation group.
- Condition: This symptom might occur when the following procedure is performed:
  - a. Configure the aggregate interface as an edge aggregate interface.
  - b. Configure the edge aggregate interface to operate in dynamic mode, and then configure it to operate in static mode.

## 201403180423

- Symptom: The TRILL link cost for an aggregate interface is the automatically calculated link cost when automatic link cost calculation is disabled for TRILL ports.

- Condition: This symptom might occur when the following procedure is performed:
  - a. Use the **auto-cost enable** command to enable automatic link cost calculation for TRILL ports. In this example, the automatically calculated link cost is 666.
  - b. Use the **undo auto-cost enable** command to disable automatic link cost calculation for TRILL ports. Then, the link cost is restored to 2000 for TRILL ports.
  - c. Use the **shutdown** command and then the **undo shutdown** command to re-enable the aggregate interface. Unexpectedly, the link cost for the aggregate interface becomes 666.

## 201404040543

- Symptom: On switches of some models, the 10-GE fiber ports can stay up only after they go down and come up multiple times, or the 10-GE fiber ports cannot go up.
- Condition: This symptom occurs when 1000-Mbps copper transceiver modules are installed in 10-GE fiber ports.

## 201404250221

- Symptom: The CPU usage seriously increases when an aggregation group member port is repeatedly shut down and brought up.
- Condition: This symptom occurs when an aggregation group member port is repeatedly shut down and brought up and its state changes between Selected and Unselected.

## 201208210014

- Symptom: A 40-GE interface without an external PHY might fail to go up.
- Condition: This symptom might occur when the following procedure is performed:
  - a. Connect a cable to a 40-GE interface without an external PHY.
  - b. Reboot the switch or use the **shutdown** command and then the **undo shutdown** command on the interface.

## 201404110133

- Symptom: A grammatical error exists in the following error message:  
 "Do you want to change the system working mode? [Y/N]:y  
 Failed to set the system working mode, please tocheck hard resource. "
- Condition: This symptom occurs when the following procedure is performed:
  - a. When the system working mode is StandardBridge, configure ACLs to reach the maximum number of ACLs allowed.
  - b. Use the **system-working-mode advance** command to configure the system working mode as AdvancedBridge.

## 201404150009

- Symptom: An incompatible ISSU on an IRF fabric fails.
- Condition: This symptom occurs when the following conditions exist:

- The IRF fabric is in ring topology and comprises more than four switches that have different startup times, such as A--B--A--B, in which B has the shortest startup time.
- Execute the **issu load** command on A, and then execute the **issu run switchover** command to upgrade other switches.

### 201403290036

- Symptom: After ISSU is used to upgrade software for a switch, the blackhole MAC address entries configured before the ISSU cannot be displayed, and you will fail to configure these blackhole MAC address entries.
- Condition: This symptom occurs when the following procedure is performed:
  - a. Configure blackhole MAC address entries on the switch.
  - b. Use ISSU to upgrade software for the switch.

### 201403130349

- Symptom: The CLI might fail to respond or the switch might reboot if continual ISSU operations are performed.
- Condition: This symptom might occur if continual ISSU operations are performed.

### 201403120389

- Symptom: When the **display fcs database** command to display the FCS database information, the **Attached port wwns** displayed for a VFC interface are incorrect.
- Condition: This symptom might occur when the following procedure is performed:
  - a. Assign the VFC interface to multiple VSANs as trunk ports.
  - b. Log in one node to the VFC interface in each VSAN. Log in multiple nodes to the VFC interfaces simultaneously.

### 201403120360

- Symptom: When the members in the default zone are denied from accessing each other, displaying the active zone set information will cause a memory leakage.
- Condition: This symptom might occur when the following procedure is performed:
  - a. Configure and activate a zone set in a VSAN.
  - b. Use the **undo zone default-zone permit** command to deny members in the default zone from accessing each other in the VSAN when logged-in nodes exist in the default zone.
  - c. Use the **display zoneset active** command to display information about the active zone set.

### 201403270198

- Symptom: The buffer configuration in the output from the **display buffer** command is incorrect.
- Condition: This symptom occurs when the following procedure is performed:
  - a. Enable the burst mode.
  - b. Perform an ISSU reboot upgrade.

## 201405040350

- Symptom: The switch reboots unexpectedly.
- Condition: This symptom occurs when the QoS configurations are frequently, dynamically modified for the QoS policies applied to the switch.

## 201403200140/201403260432/201403010096

- Symptom: After an ISSU reboot or a master/subordinate switchover, RIP and static routing entries do not take effect for a long time, resulting in traffic interruption.
- Condition: This symptom occurs after an ISSU reboot or a master/subordinate switchover.

## 201405050041

- Symptom: RIP packet loss occurs during the **issu run switchover** operation.
- Condition: This symptom occurs during the **issu run switchover** operation.

## 201403260176

- Symptom: When an aggregate interface is in down state, the output from the **display interface** command still shows packet statistics for that interface.
- Condition: This symptom can be seen when the following conditions exist:
  - Physical connections exist between the aggregate interface and a terminal.
  - The member ports of the aggregate interface are in Individual state.

## 201403290121

- Symptom: Downloading a large file through FTP fails.
- Condition: This symptom occurs if the FTP download operation is performed in Python shell view by executing the **transfer** command.

## 201403060184

- Symptom: When the loop detection feature detects a loop on a port, the port cannot automatically go up after the port status detection interval configured by using the **shutdown-interval** command.
- Condition: This symptom might occur when the following procedure is performed:
  - a. Use the **loopback-detection action shutdown** command to configure the loop protection action as **shutdown**.
  - b. Use the **shutdown-interval** command to configure the port status detection interval.

## LSV7D007841

- Symptom: After an unexpectedly reboot, the system does not record anomaly information for the reboot. The output from the **display version** command shows "Watchdog time out reboot."
- Condition: This symptom can be seen after an unexpectedly reboot.

## 201312180312

- Symptom: The disk device that connects to a subordinate device cannot be registered.
- Condition: This symptom occurs when the following conditions exist:

- An IRF fabric acts as an FCF switch.
- The domain ID is modified for the IRF fabric.

### 201405120151

- Symptom: The serial number that IMC reads from a transceiver module is incorrect.
- Condition: This symptom occurs when IMC reads the serial number of a transceiver module.

### 201403210223

- Symptom: The **stp global enable** or **undo stp global enable** command takes effect several minutes after the command is executed.
- Condition: This symptom occurs when the spanning tree protocol mode is PVST.

### 201403240117

- Symptom: VFC interfaces go down unexpectedly.
- Condition: This symptom occurs when MST regions are deleted and then MSTIs are configured in an FCoE network.

### 201403270570

- Symptom: The system prompts "unsuccessfully" when MAC entries are added or deleted on an EVB S-channel aggregate interface.
- Condition: This symptom occurs when MAC entries are added or deleted on an EVB S-channel aggregate interface.

### 201403190420

- Symptom: After an ISSU, the MAC address entries deployed by OpenFlow are lost.
- Condition: This symptom might occur when the following procedure is performed:
  - a. Configure OpenFlow to deploy MAC address entries.
  - b. Perform an ISSU for the switch.
  - c. Display the MAC address entries.

### 201402210125

- Symptom: ACLs can be successfully deployed to a switch when the ACL resource usage is 100%.
- Condition: This symptom might occur when the following procedure is performed:
  - a. Deploy ACLs to a port of the switch to make the ACL usage reach 100%.
  - b. Deploy ACLs to another port of the switch.

### 201403120404

- Symptom: Soft zoning stays enabled, and hard zoning is not enabled even when the hardware resources are sufficient.
- Condition: This symptom might occur when the following procedure is performed:
  - a. After FCoE links are successfully configured, configure ACLs to occupy all ACL resources.



- b. Use the **undo zone default-zone permit** command to deny members in the default zone from accessing each other for effective VLANs. In this case, soft zoning is enabled.
- c. Release ACL resources.

## 201403120385

- Symptom: The downlink interfaces of an NPV switch take a long time to detect the physical state changes (up or down) of the uplink interface.
- Condition: This symptom might occur when the following procedure is performed:
  - a. Configure a large number of VSANs and VFC interfaces in the FCoE fabric.
  - b. Shut down an uplink interface of the NPV switch.
  - c. Bring up the uplink interface.

## 201404170112

- Symptom: The console port stops responding and the switch reboots during a walk on ARP MIB.
- Condition: This symptom occurs when the following conditions exist:
  - More than 5000 ARP entries exist.
  - A walk on 1.3.6.1.2.1.3.1.1.3 ARP MIB is performed, and at the same time, the **reset arp all** command is executed.

## 201405150314

- Symptom: When you log in to the switch through a console port, the CLI might be stuck when you enter commands at the CLI.
- Condition: This symptom might occur when a custom transceiver module is installed in an interface that can be split into four breakout interfaces and does not have an external PHY.

## 201403210219

- Symptom: When the function of discarding unknown multicast packets is enabled for a VLAN in a TRILL+IGMP snooping scenario, unknown multicast packets in the VLAN are not discarded.
- Condition: This symptom occurs when the function of discarding unknown multicast packets is enabled for a VLAN in a TRILL+IGMP snooping scenario.

## 201403240370

- Symptom: Layer 2 traffic in a TRILL network fails to be forwarded between two RBs.
- Condition: This symptom occurs when the following conditions exist:
  - One RB acts as the AVF, and the other RB acts as a non-AVF. The two RBs connect through TRILL access ports.
  - The access ports on the AVF and the non-AVF are configured as TRILL trunk ports.

## 201404010465

- Symptom: The SFTP client on Switch B fails to download a file from Switch A after the SFTP client on Switch A downloads that file from a Linux server.

- Condition: This symptom can be seen when the SFTP client on Switch B downloads a file from Switch A after the SFTP client on Switch A downloads that file from a Linux server.

#### 201403260454

- Symptom: The keyword STRING appears after the **save** command.
- Condition: This symptom can be seen if TAB is pressed multiple times after the **save** command is input.

#### 201403180283

- Symptom: OpenFlow fails to deploy MAC address entries to overwrite existing multiport unicast MAC address entries.
- Condition: This symptom occurs when the following procedure is performed:
  - a. Configure multiport unicast MAC address entries.
  - b. Configure OpenFlow to deploy MAC address entries to overwrite these multiport unicast MAC address entries.

#### 201403240270

- Symptom: A non-administrator user can bypass RBAC check and use unauthorized functions and resources.
- Condition: This symptom occurs if the user performs the following procedure:
  - a. Upload a new configuration file that contains the rights for managing the functions and resources.
  - b. Set the configuration file as the next startup configuration file.
  - c. Reboot the switch.

#### 201404040471

- Symptom: Device will tear down TCP connection in established state when receives wrong TCP packet.
- Condition: Only for those TCP connections in established state. When they receive TCP SYN packet which is carrying a sequence number falling into the connection receiving window, a RST packet will be sent and the connection will be dropped immediately.

#### 201403210195

- Symptom: After the configurations occupying ACL resources are canceled, the output from the **display qos-acl resource** command shows that some ACL resources are not retrieved.
- Condition: This symptom occurs when the following procedure is performed:
  - a. Configure private VLAN and IGMP snooping on the switch.
  - b. Configure private VLAN to occupy all ACL resources.
  - c. Repeatedly configure and cancel the private VLAN configuration.
  - d. Cancel the private VLAN and IGMP snooping configuration on the switch.

## 201404010188

- Symptom: EVB fails to be enabled on a port.
- Condition: This symptom occurs if the following procedure is performed:
  - a. Enable and then disable TRILL on a port.
  - b. Enable EVB on the port.

## 201404150058

- Symptom: When the **zone default-zone permit** command is not configured on a switch, the attached nodes in the default zone can access each other.
- Condition: This symptom occurs when the following procedure is performed:
  - a. Enable FCoE on the switch.
  - b. Attach ENode 1 and ENode 2 in the same VSAN to the switch.

## 201404080316

- Symptom: When an attached node that has not been logged in sends an FKA packet to a switch, the switch does not respond with an FIP Clear Virtual Links packet.
- Condition: This symptom occurs when the following procedure is performed:
  - a. Enable FCoE on the switch.
  - b. An attached node that has not been logged in sends an FKA packet to the switch.

## 201401270147

- Symptom: Zone distribution cannot be completed.
- Condition: This symptom occurs when a large number of zones and zones sets are configured and zone distribution is triggered.

## 201311190312

- Symptom: The broadcast storm suppression threshold and the multicast storm suppression threshold are configured as 0 in an IRF fabric. After the IRF fabric is rebooted, these storm suppression configurations do not take effect.
- Condition: This symptom occurs when the following procedure is performed:
  - a. In an IRF fabric, use the **broadcast-suppression** and **multicast-suppression** command in Ethernet interface view to configure the broadcast storm suppression threshold and the multicast storm suppression threshold as 0.
  - b. Reboot the IRF fabric.

## 201404220072

- Symptom: The rate-limit parameter deployed by OpenFlow is different from that displayed on the switch.
- Condition: This symptom occurs when the following procedure is performed:
  - a. On the controller, configure the rate-limit parameter **burst size**.

- b. Use the **display openflow instance** command on the switch to display the OpenFlow configuration.

## 201312120164

- Symptom: After a user goes offline from a port and then comes online through another port, the output from the **display ip source binding** command still shows the IP source guard binding created for the user at the first time.
- Condition: This symptom occurs if the following procedure is performed:
  - a. The user comes online through a port, and obtains an IP address from the DHCP server.
  - b. The switch creates an IP source guard binding for the user.
  - c. The user abnormally goes offline and then comes online through another port.
  - d. The user normally goes offline.

## 201311290366

- Symptom: The auto-configuration result information shows that the switch successfully obtained a configuration file, although the switch actually failed to obtain that configuration file.
- Condition: This symptom can be seen if the following conditions exist:
  - The switch connects to a DHCP server on another switch. The configuration file path specified on the DHCP server is valid but it does not contain any configuration file.
  - The switch starts up without loading any configuration file.

## 201312040262

- Symptom: A Layer 3 interface on an IRF subordinate switch does not learn ARP entries and IPCIM entries get lost on the switch.
- Condition: This symptom occurs when the following conditions exist:
  - The Layer 3 interface on the IRF subordinate switch connects to a DHCP server.
  - The IRF subordinate switch is rebooted.

## 201312170465

- Symptom: When the SCP client on the switch uploads a file that does not exist to a remote SCP server, the system shows that the upload operation is successful.
- Condition: This symptom can be seen when the SCP client on the switch uploads a file that does not exist to a remote SCP server.

## 201312060432

- Symptom: The many-to-one VLAN mapping configuration does not take effect.
- Condition: This symptom occurs when the following procedure is performed:
  - a. Use two switches to form an IRF fabric.
  - b. Configure the **dhcp snooping binding record** command and configure many-to-one VLAN mapping on a port of IRF member switch 1.

- c. Reboot IRF member switch 2.

## 201403070417

- Symptom: A switch running Comware v5 can get a file from a switch running Comware v7 by executing an SCP command. The switch running Comware v7 cannot put a file to the switch running Comware v5 through an SCP command.
- Condition: This symptom can be seen between a switch running Comware v5 and a switch running Comware v7.

## 201311180452

- Symptom: After a node logs out, the switch does not release corresponding resources.
- Condition: This symptom can be seen if a node performs the following operations:
  - a. Log in to the switch in Transit mode.
  - b. Perform an ISSU.
  - c. Log out the switch.

## 201312260147

- Symptom: A DHCP client takes a very long time to complete address acquisition from the DHCP server on the switch.
- Condition: This symptom occurs if the DHCP request from the DHCP client contains an IP address that is not on the same network as the IP address of the DHCP server's receiving interface.

## 201310220394

- Symptom: After FCoE mode is changed to none, FIP snooping driver entries still exist, and FCoE mode is still FCF mode.
- Condition: This symptom can be seen if the following procedure is performed:
  - a. Create 100 VFC interfaces and bind them to the same Layer 2 aggregate interface on an FCF switch.
  - b. 100 nodes log in through the 100 VFC interfaces.
  - c. Create static routes that reach the software specification. Some static routes are in inactive state because of exceeding the driver specification.
  - d. Bind another VFC interface to a member port of the Layer 2 aggregate interface.
  - e. Change FCoE mode to none.

## 201401060010

- Symptom: After more than 10 non-contiguous VSANs are configured using the **port trunk vsan** command on a VFC interface, the output from the **display current-configuration** command shows that the VSANs configurations failed.
- Condition: This symptom be seen after more than 10 non-contiguous VSANs are configured using the **port trunk vsan** command on a VFC interface.

## 201403060232

- Symptom: Assigning QoS policies in batches to virtual nodes from IMC fails.
- Condition: This symptom can be seen when you use IMC to batch assign QoS policies to virtual nodes.

## 201403120396

- Symptom: When resources are insufficient for an FC zone, the output from the **display zone status** command shows that the FC zone is still in enabled state.
- Condition: This symptom can be seen if the following procedure is performed:
  - a. Configure an FC zone.
  - b. Keep the FC zone change between enabled state and disabled state by continually performing the following operations:

Add zone members to reach the zone ACL specification so the zone changes to disabled state. Then delete zone members to enable the zone.
  - c. Execute the **display zone status** command when resources are insufficient.

# Resolved problems in E2309

First release

## Related documentation

### Documentation set

- H3C S6300 Switch Series Installation Quick Start
- H3C S6300 Switch Series Installation Guide
- H3C LSWM1FANSC and LSWM1FANSCB Installation Manual
- H3C LSVM1HFANSC & LSVM1HFANSCB Fan Assemblies Installation
- H3C LSVM1AC650 & LSVM1DC650 Power Modules User Manual
- H3C LSVM1AC300 & LSVM1DC300 Power Modules User Manual
- H3C S6300 Switch Series Configuration Guides-Release 2310
- H3C S6300 Switch Series Command References-Release 2310

## Obtaining Documentation

Take the following steps to get related documents from the H3C website at [www.h3c.com](http://www.h3c.com).

1. Go to [http://www.h3c.com/portal/Technical\\_Documents](http://www.h3c.com/portal/Technical_Documents).
2. Choose the desired product category and model.

# Appendix A Feature list

## Hardware features

**Table 5 S6300 series hardware features**

Item	S6300-42QF	S6300-42QT	S6300-48S	S6300-52QF
Dimensions (H × W × D)	43.6 × 440 × 460 mm (1.72 × 17.32 × 18.11 in)	43.6 × 440 × 660 mm (1.72 × 17.32 × 25.98 in)	43.6 × 440 × 460 mm (1.72 × 17.32 × 18.11 in)	43.6 × 440 × 460 mm (1.72 × 17.32 × 18.11 in)
Weight	≤ 10 kg (22.05 lb)	≤ 13 kg (28.66 lb)	≤ 10 kg (22.05 lb)	≤ 10 kg (22.05 lb)
Console ports	1			
Management Ethernet ports	1			
USB ports	1			
SFP+ ports	40	8	48	48
QSFP+ ports	2	2	N/A	4
1/10GBase-T autosensing Ethernet ports	N/A	32	N/A	N/A
Fan tray slots	LSVM1AC300 LSVM1DC300	LSVM1AC650 LSVM1DC650	LSVM1AC300 LSVM1DC300	LSVM1AC300 LSVM1DC300
Power module slots	LSWM1FANSC LSWM1FANSCB	LSWM1HFANSC LSWM1HFANSCB	LSWM1FANSC LSWM1FANSCB	LSWM1FANSC LSWM1FANSCB
AC-input voltage	Rated voltage: 100 VAC to 240 VAC @ 50 or 60 Hz Max voltage: 90 VAC to 264 VAC @ 47 to 63 Hz			
DC-input voltage	Rated voltage: -48 VDC to -60 VDC	Rated voltage: -40 VDC to -60 VDC	Rated voltage: -48 VDC to -60 VDC	Rated voltage: -48 VDC to -60 VDC
Minimum power consumption	<ul style="list-style-type: none"> <li>• Single AC input: 83 W</li> <li>• Dual AC inputs: 90 W</li> <li>• Single DC input: 80 W</li> <li>• Dual DC inputs: 88 W</li> </ul>	<ul style="list-style-type: none"> <li>• Single AC input: 135 W</li> <li>• Dual AC inputs: 150 W</li> <li>• Single DC input: 135 W</li> <li>• Dual DC inputs: 150 W</li> </ul>	<ul style="list-style-type: none"> <li>• Single AC input: 87 W</li> <li>• Dual AC inputs: 93 W</li> <li>• Single DC input: 82 W</li> <li>• Dual DC inputs: 88 W</li> </ul>	<ul style="list-style-type: none"> <li>• Single AC input: 97 W</li> <li>• Dual AC inputs: 106 W</li> <li>• Single DC input: 96 W</li> <li>• Dual DC inputs: 105 W</li> </ul>



Item	S6300-42QF	S6300-42QT	S6300-48S	S6300-52QF
Maximum power consumption	<ul style="list-style-type: none"> <li>• Single AC input: 153 W</li> <li>• Dual AC inputs: 162 W</li> <li>• Single DC input: 149 W</li> <li>• Dual DC inputs: 157 W</li> </ul>	<ul style="list-style-type: none"> <li>• Single AC input: 343 W</li> <li>• Dual AC inputs: 350 W</li> <li>• Single DC input: 340 W</li> <li>• Dual DC inputs: 344 W</li> </ul>	<ul style="list-style-type: none"> <li>• Single AC input: 160 W</li> <li>• Dual AC inputs: 165 W</li> <li>• Single DC input: 151 W</li> <li>• Dual DC inputs: 157 W</li> </ul>	<ul style="list-style-type: none"> <li>• Single AC input: 191 W</li> <li>• Dual AC inputs: 196 W</li> <li>• Single DC input: 187 W</li> <li>• Dual DC inputs: 190 W</li> </ul>
Operating temperature	0°C to 45°C (32°F to 113°F)			
Operating humidity	10% to 90%, noncondensing			

## Software features

**Table 6 Software features of the S6300 series**

Feature	S6300-42QF	S6300-42QT	S6300-48S	S6300-52QF
Full duplex Wire speed L2 switching capacity	960 Gbps	960 Gbps	960 Gbps	1280 Gbps
Whole system Wire speed L2 switching Packet forwarding rate	714.24	714.24	714.24	952.32
Forwarding mode	Store-forward and cut-through			
IRF	<ul style="list-style-type: none"> <li>• Ring topology</li> <li>• Daisy chain topology</li> <li>• LACP MAD</li> <li>• ARP MAD</li> <li>• ND MAD</li> <li>• BFD MAD</li> <li>• ISSU</li> <li>• IRF comprised of different models</li> </ul>			
Link aggregation	<ul style="list-style-type: none"> <li>• Aggregation of 10-GE ports</li> <li>• Aggregation of 40-GE ports</li> <li>• Static link aggregation</li> <li>• Dynamic link aggregation</li> <li>• When stacked, supports up to 128 aggregation groups, each supporting up to 16 ports</li> </ul>			

Feature	S6300-42QF	S6300-42QT	S6300-48S	S6300-52QF
Data center	<ul style="list-style-type: none"> <li>• PFC</li> <li>• DCBX</li> <li>• FcoE(FCF/Transit/NPV)</li> <li>• TRILL</li> <li>• EVB</li> </ul>			
Flow control	<ul style="list-style-type: none"> <li>• IEEE 802.3x flow control and back pressure</li> </ul>			
Jumbo Frame	<ul style="list-style-type: none"> <li>• Supports maximum frame size of 10000</li> </ul>			
MAC address table	<ul style="list-style-type: none"> <li>• 128K MAC addresses</li> <li>• 1K static MAC addresses</li> <li>• Blackhole MAC addresses</li> <li>• MAC address learning limit on a port</li> </ul>			
VLAN	<ul style="list-style-type: none"> <li>• Port-based VLANs (4094 VLANs)</li> <li>• QinQ and selective QinQ</li> </ul>			
VLAN mapping	<ul style="list-style-type: none"> <li>• One-to-one VLAN mapping</li> <li>• Many-to-one VLAN mapping</li> <li>• Two-to-two VLAN mapping</li> </ul>			
ARP	<ul style="list-style-type: none"> <li>• 1K entries</li> <li>• 1K static entries</li> <li>• Gratuitous ARP</li> <li>• ARP source suppression</li> <li>• ARP black hole</li> <li>• ARP detection (based on DHCP snooping entries/802.1x security entries/static IP-to-MAC bindings)</li> <li>• Multicast ARP</li> </ul>			
ND	<ul style="list-style-type: none"> <li>• 512 entries</li> <li>• 512 static entries</li> </ul>			
VLAN virtual interface	32			
DHCP	<ul style="list-style-type: none"> <li>• DHCP client</li> <li>• DHCP snooping</li> <li>• DHCP relay agent</li> <li>• DHCP server</li> <li>• DHCPv6 server</li> </ul>			
IPv4 route	<ul style="list-style-type: none"> <li>• 128 static routes</li> <li>• RIP (Routing Information Protocol) v1/v2; up to 128 IPv4 routes</li> </ul>			
IPv6 route	<ul style="list-style-type: none"> <li>• 128 static routes</li> <li>• RIPng: Supports up to 128K IPv6 routes</li> </ul>			
IPv4 multicast	<ul style="list-style-type: none"> <li>• IGMP snooping v1/v2/v3</li> <li>• PIM snooping</li> </ul>			
IPv6 multicast	<ul style="list-style-type: none"> <li>• MLD snooping v1/v2</li> <li>• Ipv6 PIM snooping</li> </ul>			

Feature	S6300-42QF	S6300-42QT	S6300-48S	S6300-52QF
Broadcast/multi cast/unicast storm control	<ul style="list-style-type: none"> <li>Storm control based on port rate percentage</li> <li>PPS-based storm control</li> <li>Bps-based storm control</li> </ul>			
MSTP	<ul style="list-style-type: none"> <li>STP/RSTP/MSTP protocol</li> <li>STP Root Guard</li> <li>BPDU Guard</li> </ul>			
QoS/ACL	<ul style="list-style-type: none"> <li>Restriction of the rates at which a port sends and receives packets, with a granularity of 8 kbps.</li> <li>Committed access rate (CAR), with a granularity of traffic limit 8 kbps.</li> <li>Eight output queues for each port</li> <li>Flexible queue scheduling algorithms based on port and queue, including strict priority (SP), Weighted Deficit Round Robin (WDRR), Weighted Fair Queuing (WFQ), SP + WDRR, and SP + WFQ.</li> <li>Remarking of 802.1p and DSCP priorities</li> <li>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.</li> <li>Time range</li> <li>Weighted Random Early Detection (WRED)</li> <li>Queue based shaping</li> <li>User profile</li> <li>COPP</li> <li>Explicit Congestion Notification (ECN)</li> </ul>			
Mirroring	<ul style="list-style-type: none"> <li>Stream mirroring</li> <li>Port mirroring</li> <li>Multiple mirror observing port</li> </ul>			
Remote mirroring	<ul style="list-style-type: none"> <li>Port remote mirroring (RSPAN)</li> </ul>			
Security	<ul style="list-style-type: none"> <li>Hierarchical management and password protection of users</li> <li>AAA authentication</li> <li>RADIUS authentication</li> <li>HWTACACS</li> <li>SSH 2.0</li> <li>Port isolation</li> <li>Port security</li> <li>IP-MAC-port binding</li> <li>IP Source Guard</li> <li>HTTPS</li> <li>SSL</li> <li>PKI</li> <li>Boot ROM access control (password recovery)</li> </ul>			
802.1X	<ul style="list-style-type: none"> <li>Up to 2,048 users</li> <li>Port-based and MAC address-based authentication</li> <li>Trunk port authentication</li> </ul>			

Feature	S6300-42QF	S6300-42QT	S6300-48S	S6300-52QF
Traffic Management	<ul style="list-style-type: none"> <li>sFlow</li> </ul>			
Loading and upgrading	<ul style="list-style-type: none"> <li>Loading and upgrading through XModem protocol</li> <li>Loading and upgrading through FTP</li> <li>Loading and upgrading through the trivial file transfer protocol (TFTP)</li> </ul>			
Management	<ul style="list-style-type: none"> <li>Configuration at the command line interface</li> <li>Remote configuration through Telnet</li> <li>Configuration through Console port</li> <li>Simple network management protocol (SNMP)</li> <li>IMC NMS</li> <li>System log</li> <li>Hierarchical alarms</li> <li>NTP</li> <li>Power supply alarm function</li> <li>Fan and temperature alarms</li> </ul>			
Maintenance	<ul style="list-style-type: none"> <li>Debugging information output</li> <li>Ping and Tracert</li> <li>NQA</li> <li>Track</li> <li>Remote maintenance through Telnet</li> <li>802.1ag</li> <li>802.3ah</li> <li>DLDP</li> <li>File download and upload through USB port</li> </ul>			

## 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**.

---

**NOTE:**

Boot ROM images are not released along with the boot images and system images. To get a version of Boot ROM image, contact the H3C technical support.

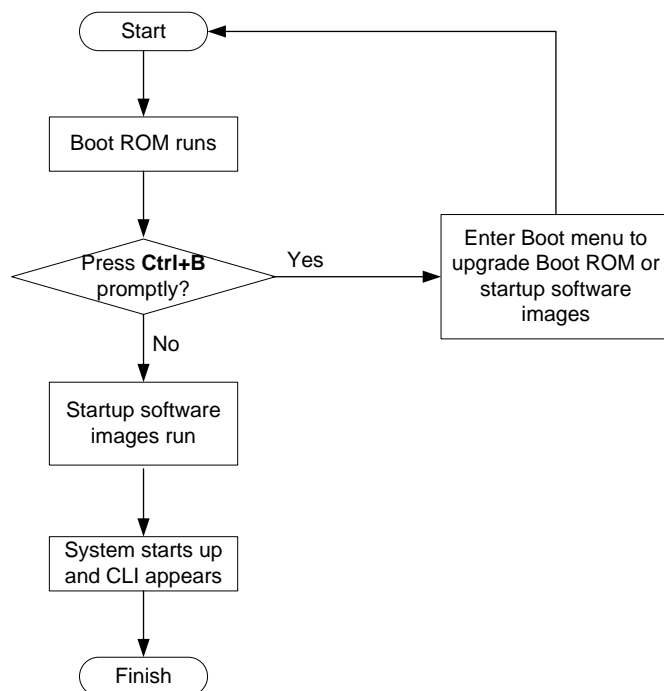
---

In addition to these images, H3C irregularly releases patch images for you to fix bugs without rebooting the switch. A patch image does not add new features or functions.

## 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
	Software images	<ul style="list-style-type: none"><li>You must reboot the switch to complete the upgrade.</li><li>This method can interrupt ongoing network services.</li></ul>
Upgrading from the CLI	Patch packages	<p>The upgrade does not interrupt ongoing services.</p> <p>Make sure the patch images match the current software images. A patch image can fix bugs only for its matching software image version.</p>
Upgrading from the Boot menu	<ul style="list-style-type: none"><li>Boot ROM image</li><li>Software images</li></ul>	<p>Use this method when the switch cannot correctly start up.</p> <p><b>⚠ CAUTION:</b></p> <p>Upgrading an IRF fabric from the CLI instead of the Boot menu.</p> <p>The Boot menu method increases the service downtime, because it requires that you upgrade the member switches one by one.</p>

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, `S6300-cmw710-boot-e2309.bin` and `S6300-cmw710-system-e2309.bin`.

## Upgrading from the CLI

This section uses a two-member IRF fabric as an example to describe how to upgrade software from the CLI. If you have more than two subordinate switches, repeat the steps for the subordinate switch to upgrade their software. If you are upgrading a standalone switch, ignore the steps for upgrading the subordinate switch. For more information about setting up and configuring an IRF fabric, see the installation guide and IRF configuration guide for the H3C S6300 switch series.

## Preparing for the upgrade

Before you upgrade software, complete the following tasks:

1. Log in to the IRF fabric through Telnet or the console port. (Details not shown.)
2. Identify the number of IRF members, each member switch's role, and IRF member ID.

```
<Sysname> display irf
MemberID  Role  Priority  CPU-Mac      Description
*+1      Master  5        0023-8927-afdc  ---
2        Standby 1        0023-8927-af43  ---
```

```
-----
* indicates the device is the master.
+ indicates the device through which the user logs in.
```

```
The Bridge MAC of the IRF is: 0023-8927-afdb
Auto upgrade           : no
Mac persistent         : 6 min
Domain ID              : 0
```

3. Verify that each IRF member switch has sufficient storage space for the upgrade images.

---

**! IMPORTANT:**

Each IRF member switch must have free storage space that is at least two times the size of the upgrade image file.

---

# Identify the free flash space of the master switch.

```
<Sysname> dir
Directory of flash:
 0  -rw-      41424  Aug 23 2013 02:23:44  startup.mdb
 1  -rw-       3792  Aug 23 2013 02:23:44  startup.cfg
 2  -rw-    53555200  Aug 23 2013 09:53:48  system.bin
 3  drw-      -    Aug 23 2013 00:00:07  seclog
 4  drw-      -    Aug 23 2013 00:00:07  diagfile
 5  drw-      -    Aug 23 2013 00:00:07  logfile
 6  -rw-    9959424  Aug 23 2013 09:53:48  boot.bin
 7  -rw-    9012224  Aug 23 2013 09:53:48  backup.bin
```

```
524288 KB total (453416 KB free)
```

# Identify the free flash space of each subordinate switch, for example, switch 2.

```
<Sysname> dir slot2#flash:/
Directory of slot2#flash:/
 0  -rw-      41424  Jan 01 2011 02:23:44  startup.mdb
 1  -rw-       3792  Jan 01 2011 02:23:44  startup.cfg
 2  -rw-    93871104  Aug 23 2013 16:00:08  system.bin
 3  drw-      -    Jan 01 2011 00:00:07  seclog
 4  drw-      -    Jan 01 2011 00:00:07  diagfile
 5  drw-      -    Jan 02 2011 00:00:07  logfile
 6  -rw-    13611008  Aug 23 2013 15:59:00  boot.bin
 7  -rw-    9012224  Nov 25 2011 09:53:48  backup.bin
```

```
524288 KB total (453416 KB free)
```

4. Compare the free flash space of each member switch with the size of the software file to load. If the space is sufficient, start the upgrade process. If not, go to the next step.
5. Delete unused files in the flash memory to free space:

---

**△ CAUTION:**

- To avoid data loss, do not delete the current configuration file. For information about the current configuration file, use the **display startup** command.
  - The **delete /unreserved file-url** command deletes a file permanently and the action cannot be undone.
  - The **delete file-url** command moves a file to the recycle bin and the file still occupies storage space. To free the storage space, first execute the **undelete** command to restore the file, and then execute the **delete /unreserved file-url** command.
- 

# Delete unused files from the flash memory of the master switch.

```
<Sysname> delete /unreserved flash:/backup.bin
The file cannot be restored. Delete flash:/backup.bin?[Y/N]:y
Deleting the file permanently will take a long time. Please wait...
Deleting file flash:/backup.bin...Done.
```

# Delete unused files from the flash memory of the subordinate switch.

```
<Sysname> delete /unreserved slot2#flash:/backup.bin
The file cannot be restored. Delete slot2#flash:/backup.bin?[Y/N]:y
Deleting the file permanently will take a long time. Please wait...
Deleting file slot2#flash:/backup.bin...Done.
```

## Downloading software images to the master switch

Before you start upgrading software images or patch packages, make sure you have downloaded the upgrading software files to the root directory in flash memory. This section describes downloading an .ipe software file as an example.

The following are ways to download, upload, or copy files to the master switch:

- [FTP download from a server](#)
- [FTP upload from a client](#)
- [TFTP download from a server](#)
- [Copying files from a USB flash drive](#)

### Prerequisites

If FTP or TFTP is used, the IRF fabric and the PC working as the FTP/TFTP server or FTP client can reach each other.

Prepare the FTP server or TFTP server program yourself for the PC. The switch series does not come with these software programs.

### FTP download from a server

You can use the switch as an FTP client to download files from an FTP server.

To download a file from an FTP server, for example, the server at 10.10.110.1:



1. Run an FTP server program on the server, configure an FTP username and password, specify the working directory and copy the file, for example, **newest.ipe**, to the directory.

2. Execute the **ftp** command in user view on the IRF fabric to access the FTP server.

```
<Sysname> ftp 10.10.110.1
Trying 10.10.110.1...
Press CTRL+K to abort
Connected to 10.10.110.1
220 FTP service ready.
User(10.10.110.1:(none)):username
331 Password required for username.
Password:
230 User logged in
```

3. Enable the binary transfer mode.

```
ftp> binary
200 Type set to I.
```

4. Execute the **get** command in FTP client view to download the file from the FTP server.

```
ftp> get newest.ipe
227 Entering Passive Mode (10,10,110,1,17,97).
125 BINARY mode data connection already open, transfer starting for /newest.ipe
226 Transfer complete.
32133120 bytes received in 35 seconds (896.0 kbyte/s)
ftp> bye
221 Server closing.
```

## FTP upload from a client

You can use the IRF fabric as an FTP server and upload files from a client to the IRF fabric.

To FTP upload a file from a client:

On the IRF fabric:

1. Enable FTP server.

```
<Sysname> system-view
[Sysname] ftp server enable
```

2. Configure a local FTP user account:

# Create the user account.

```
[Sysname] local-user abc
```

# Set its password and specify the FTP service.

```
[Sysname-luser-manage-abc] password simple pwd
```

```
[Sysname-luser-manage-abc] service-type ftp
```

# Assign the **network-admin** user role to the user account for uploading file to the working directory of the server.

```
[Sysname-luser-manage-abc] authorization-attribute user-role network-admin
```

```
[Sysname-luser-manage-abc] quit
```

```
[Sysname] quit
```

On the PC:

3. Log in to the IRF fabric (the FTP server) in FTP mode.

```
c:\> ftp 1.1.1.1
Connected to 1.1.1.1.
220 FTP service ready.
User(1.1.1.1:(none)):abc
331 Password required for abc.
Password:
230 User logged in.
```

4. Enable the binary file transfer mode.

```
ftp> binary
200 TYPE is now 8-bit binary.
```

5. Upload the file (for example, **newest.ipe**) to the root directory of the flash memory on the master switch.

```
ftp> put newest.ipe
200 PORT command successful
150 Connecting to port 10002
226 File successfully transferred
ftp: 32133120 bytes sent in 64.58 secs (497.60 Kbytes/sec).
```

## TFTP download from a server

To download a file from a TFTP server, for example, the server at 10.10.110.1:

1. Run a TFTP server program on the server, specify the working directory, and copy the file, for example, **newest.ipe**, to the directory.
2. On the IRF fabric, execute the **tftp** command in user view to download the file to the root directory of the flash memory on the master switch.

```
<Sysname> tftp 10.10.110.1 get newest.ipe
Press CTRL+C to abort.
  % Total      % Received % Xferd  Average Speed   Time    Time       Time  Current
                                 Dload  Upload  Total   Spent    Left   Speed
100 30.6M    0 30.6M    0     0    143k      0  ---:--:--  0:03:38  ---:--:--  142k
```

## Copying files from a USB flash drive

The S6300 switch provides a USB port for you to copy files from a USB flash drive.

To copy a file from a USB flash drive to the flash memory of the master switch:

1. Plug the USB flash drive in the USB port of the switch.
2. Copy the file (for example, **newest.ipe**) to the flash memory of the switch.

```
<Sysname> cd usba:
<Sysname> copy usba:/newest.ipe newest.ipe
Copy usba:/newest.ipe to flash:/newest.ipe?[Y/N]:y
Start to copy usba:/newest.ipe to flash:/newest.ipe... Done.
```

## Upgrading the software images

To upgrade the software images:

1. Specify the upgrade image file (**newest.ipe** in this example) used at the next startup for the master switch, and assign the M attribute to the boot and system images in the file.

```
<Sysname> boot-loader file flash:/newest.ipe slot 1 main
Verifying image file.....Done.
Images in IPE:
  boot.bin
  system.bin
This command will set the main startup software images. Continue? [Y/N]:y
Add images to target slot.
Decompressing file boot.bin to flash:/boot.bin.....Done.
Decompressing file system.bin to flash:/system.bin.....Done.
The images that have passed all examinations will be used as the main startup software images at the next reboot on slot 1.
```

2. Specify the upgrade image file as the main startup image file for each subordinate switch. This example uses IRF member 2. (The subordinate switches will automatically copy the file to the root directory of their flash memories.)

```
<Sysname> boot-loader file flash:/newest.ipe slot 2 main
Verifying image file.....Done.
Images in IPE:
  boot.bin
  system.bin
This command will set the main startup software images. Continue? [Y/N]:y
Add images to target slot.
Decompressing file boot.bin to flash:/boot.bin.....Done.
Decompressing file system.bin to flash:/system.bin.....Done.
The images that have passed all examinations will be used as the main startup software images at the next reboot on slot 2.
```

3. Enable the software auto-update function.

```
<Sysname> system-view
[Sysname] irf auto-update enable
[Sysname] quit
```

This function checks the software versions of member switches for inconsistency with the master switch. If a subordinate switch is using a different software version than the master, the function propagates the current software images of the master to the subordinate as main startup images. The function prevents software version inconsistency from causing the IRF setup failure.

4. Save the current configuration in any view to prevent data loss.

```
<Sysname> save
The current configuration will be written to the device. Are you sure? [Y/N]:y
Please input the file name(*.cfg)[flash:/startup.cfg]
(To leave the existing filename unchanged, press the enter key):
flash:/startup.cfg exists, overwrite? [Y/N]:y
Validating file. Please wait.....
Saved the current configuration to mainboard device successfully.
Slot 2:
Save next configuration file successfully.
```

5. Reboot the IRF fabric to complete the upgrade.

```
<Sysname> reboot
```

```
Start to check configuration with next startup configuration file, please wait.
```

```
.....DONE!
```

```
This command will reboot the device. Continue? [Y/N]:y
```

```
Now rebooting, please wait...
```

The system automatically loads the .bin boot and system images in the .ipe file and sets them as the startup software images.

6. Execute the **display version** command in any view to verify that the current main software images have been updated (details not shown).

---

#### NOTE:

The system automatically checks the compatibility of the Boot ROM image and the boot and system images during the reboot. If you are prompted that the Boot ROM image in the upgrade image file is different than the current Boot ROM image, upgrade both the basic and extended sections of the Boot ROM image for compatibility. If you choose to not upgrade the Boot ROM image, the system will ask for an upgrade at the next reboot performed by powering on the switch or rebooting from the CLI (promptly or as scheduled). If you fail to make any choice in the required time, the system upgrades the entire Boot ROM image.

---

## Installing a patch package

To install a patch package, for example, **system-patch.bin**:

1. Activate the patch package on the master switch and the subordinate switch.

```
<Sysname> install activate patch flash:/system-patch.bin slot 1
```

```
<Sysname> install activate patch flash:/system-patch.bin slot 2
```

2. Verify that the patch package has been activated.

```
<Sysname> display install active
```

```
Active packages on slot 1:
```

```
flash:/boot.bin
```

```
flash:/system.bin
```

```
flash:/system-patch.bin
```

```
Active packages on slot 2:
```

```
flash:/boot.bin
```

```
flash:/system.bin
```

```
flash:/system-patch.bin
```

3. Commit the installation so the patch package continues to take effect after a reboot.

```
<Sysname> install commit
```

4. Verify that the patch package installation has been committed.

```
<Sysname> display install committed
```

```
Committed packages on slot 1:
```

```
flash:/boot.bin
```

```
flash:/system.bin
```

```
flash:/system-patch.bin
```

```
Committed packages on slot 2:
```

```
flash:/boot.bin
```

```
flash:/system.bin
```

```
flash:/system-patch.bin
```

For more information about installing patch packages, see *H3C S6300 Switch Series Fundamentals Configuration Guide*.

## Upgrading from the Boot menu

From the Boot menu, you can upgrade the Boot ROM and Comware images, but not patch images.

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 management 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 management 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**—9,600
  - **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

*****
*                                                                 *
*           H3C S6300-52QF BOOTROM, Version 132                 *
*                                                                 *
*****
Copyright (c) 2004-2014 Hangzhou H3C Technologies Co., Ltd.

Creation Date   : Jan  6 2013,14:25:58
CPU Clock Speed : 1000MHz
Memory Size    : 2048MB
Flash Size     : 512MB
CPLD Version   : 002/002
PCB Version    : Ver.B
Mac Address    : 0CDA415E232E

Press Ctrl+B to access EXTENDED BOOT MENU...1

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 132
*
*
*****
```

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 <a href="#">Using XMODEM to upgrade Boot ROM through the console port</a> .
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 <a href="#">Using XMODEM to upgrade Boot ROM through the console port</a> .
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 <a href="#">Using XMODEM to upgrade Boot ROM through the console port</a> .
4. Boot extended BootRom	Access the extended Boot ROM segment. For more information, see <a href="#">Accessing the extended Boot menu</a> .
0. Reboot	Reboot the switch.
Ctrl+U: Access BASIC ASSISTANT MENU	Press <b>Ctrl + U</b> to access the BASIC ASSISTANT menu (see <a href="#">Table 10</a> ).

**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 H3C S6300 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	<p>Download a software image file to the flash.</p> <p>If password recovery capability is enabled, you can use any version of the software image file for upgrade.</p> <p>If password recovery capability is disabled, you can use only the E2309 version (or higher) for upgrade.</p>
2. Select image to boot	<ul style="list-style-type: none"> <li>Specify the main and backup software image file for the next startup:</li> </ul> <p>If password recovery capability is enabled, you can specify a software image file of any version.</p> <p>If password recovery capability is disabled, the software image file version must be E2309 or higher.</p> <ul style="list-style-type: none"> <li>Specify the main and backup configuration files for the next startup. This task can be performed only if password recovery capability is enabled.</li> </ul>
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	<p>Delete the current next-startup configuration files and restore the factory-default configuration.</p> <p>This option is available only if password recovery capability is disabled.</p>
6. Enter BootRom upgrade menu	<p>Access the Boot ROM upgrade menu.</p> <p>If password recovery capability is enabled, you can upgrade the Boot ROM to any version.</p> <p>If password recovery capability is disabled, you can upgrade the Boot ROM only to version 123 or higher.</p>
7. Skip current system configuration	<p>Start the switch without loading any configuration file.</p> <p>This is a one-time operation and takes effect only for the first system boot or reboot after you choose this option.</p> <p>This option is available only if password recovery capability is enabled.</p>
8. Set switch startup mode	Set the startup mode to fast startup mode or full startup mode.
0. Reboot	Reboot the switch.

Option	Tasks
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.
Ctrl+Z: Access EXTENDED ASSISTANT MENU	Access the EXTENDED ASSISTANT MENU. For options in the menu, see <a href="#">Table 12</a> .

**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 management Ethernet port
- Using FTP to upgrade software through the management Ethernet port
- Using XMODEM to upgrade software through the console port

### Using TFTP to upgrade software images through the management 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, <b>update.ipe</b> ).
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 through the management 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, <b>update.ipe</b> ).
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).

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:**

- 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 management Ethernet port. To save time, use the management 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
```

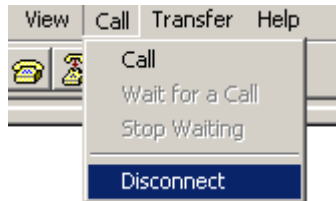
```
Please change the terminal's baudrate to 115200 bps and select XMODEM protocol
```

```
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 9600 bps as the download rate for the console port, skip this task.

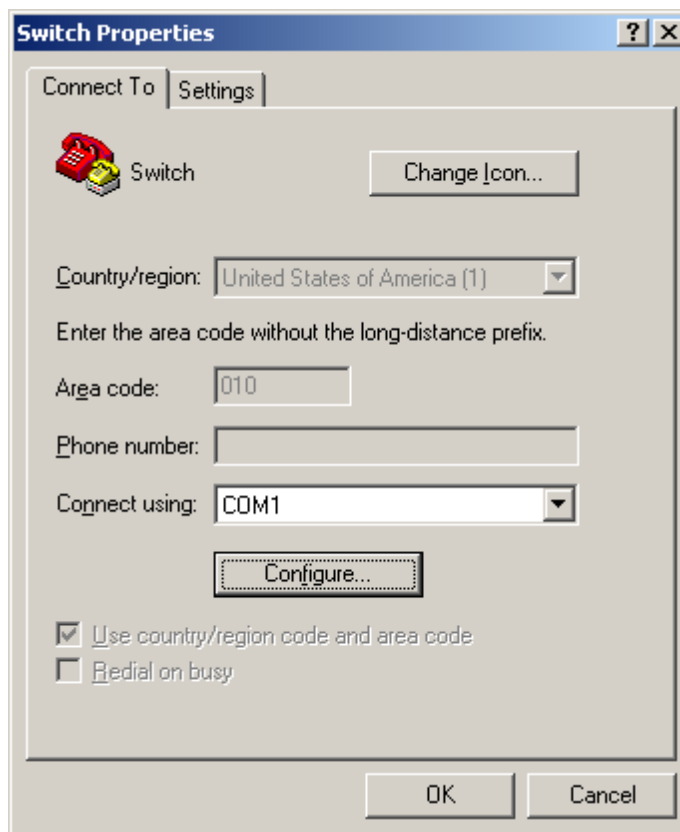
- a. Select **Call > Disconnect** in the HyperTerminal window to disconnect the terminal from the switch.

**Figure 2 Disconnecting the terminal from the switch**



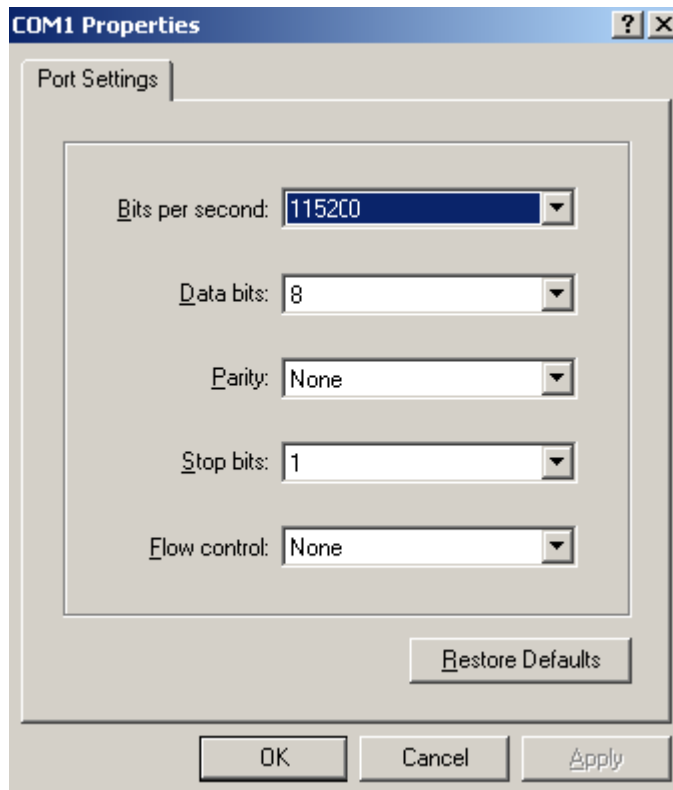
- b. Select **File > Properties**, and in the **Properties** dialog box, click **Configure**.

**Figure 3 Properties dialog box**



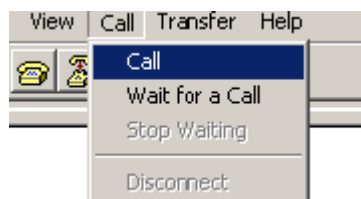
- c. Select **115200** from the **Bits per second** list and click **OK**.

**Figure 4 Modifying the baud rate**



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

**Figure 5 Reestablishing the connection**

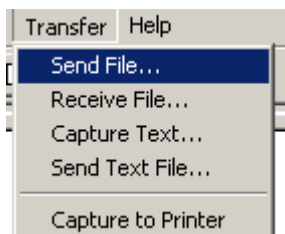


5. Press **Enter**. The following prompt appears:  

```
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.

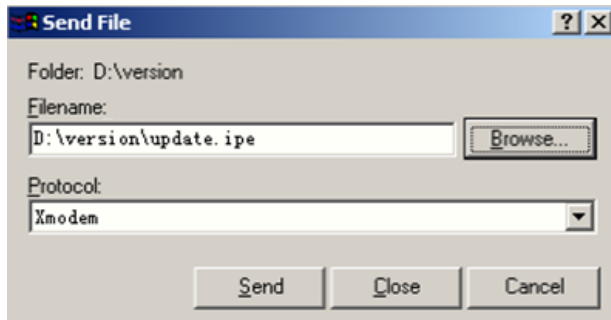
**Figure 6 Transfer menu**





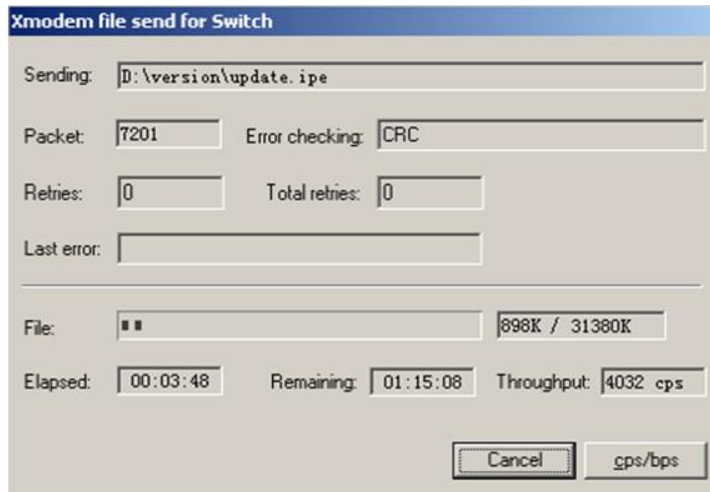
- In the dialog box that appears, click **Browse** to select the source file, and select **Xmodem** from the **Protocol** list.

**Figure 7 File transmission dialog box**



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

**Figure 8 File transfer progress**



- 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 9600 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 9600 bps, restore it to 9600 bps as described in step 5.a. If the baud rate is 9600 bps, skip this step.
- 

**NOTE:**

The console port rate reverts to 9600 bps 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 management Ethernet port
- Using FTP to upgrade Boot ROM through the management Ethernet port
- Using XMODEM to upgrade Boot ROM through the console port

### Using TFTP to upgrade Boot ROM through the management 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, <b>update.btm</b> ).
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 management 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, <b>update.btm</b> ).
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 management Ethernet port. To save time, use the management 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.

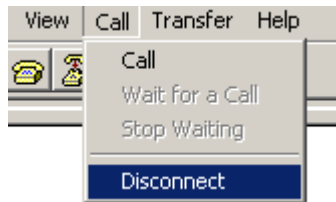
Download baudrate is 115200 bps

Please change the terminal's baudrate to 115200 bps and select XMODEM protocol

Press enter key when ready

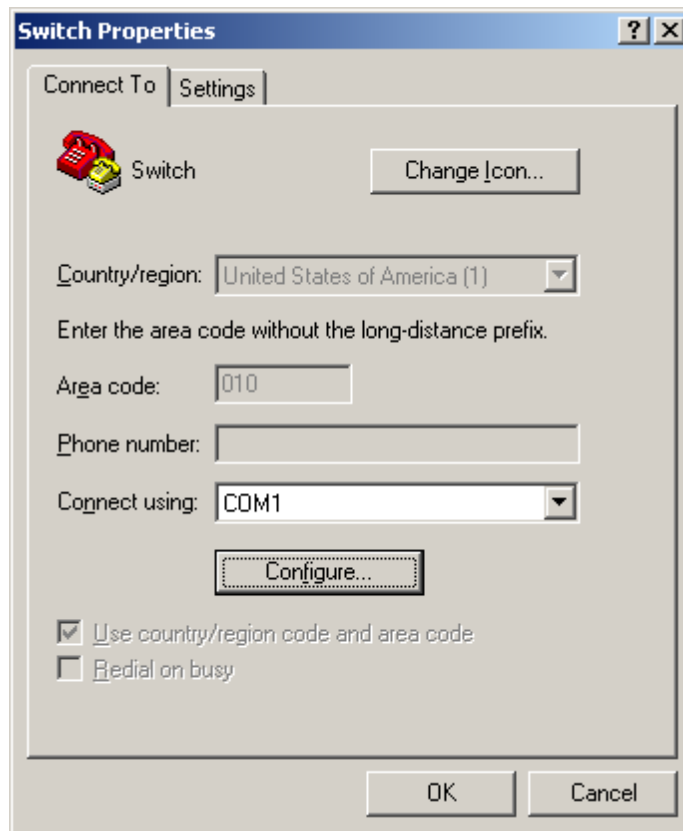
5. Set the serial port on the terminal to use the same baud rate and protocol as the console port. If you select 9600 bps as the download rate for the console port, skip this task.
  - a. Select **Call > Disconnect** in the HyperTerminal window to disconnect the terminal from the switch.

**Figure 9 Disconnecting the terminal from the switch**



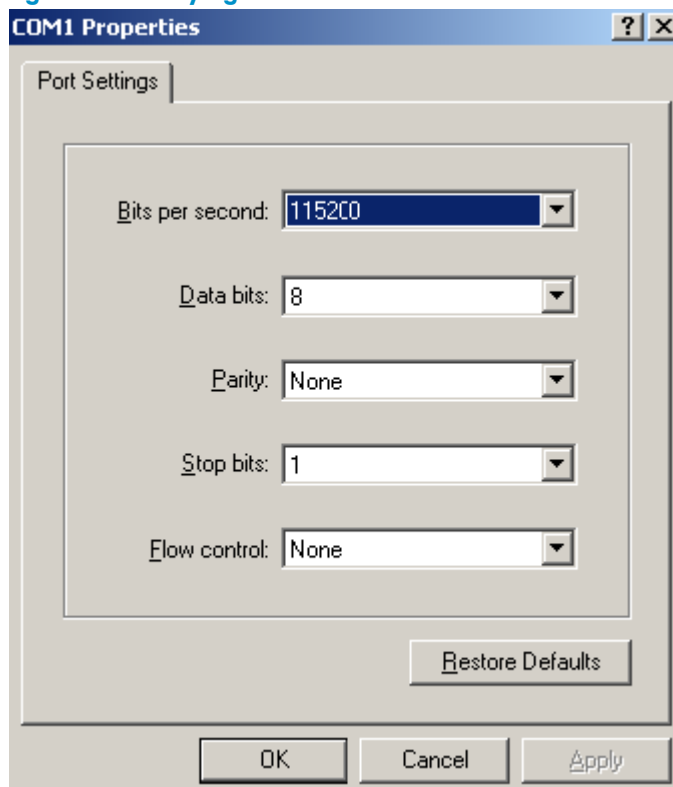
- b. Select **File > Properties**, and in the **Properties** dialog box, click **Configure**.

**Figure 10 Properties dialog box**



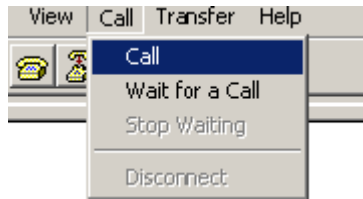
- c. Select **115200** from the **Bits per second** list and click **OK**.

**Figure 11** Modifying the baud rate



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

**Figure 12 Reestablishing the connection**

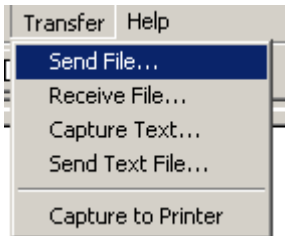


6. Press **Enter** to start downloading the file.

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

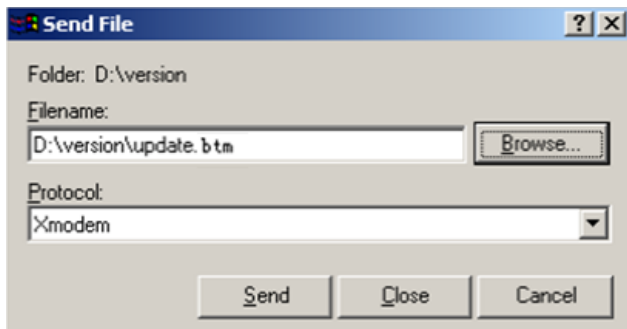
7. Select **Transfer** > **Send File** in the HyperTerminal window.

**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.

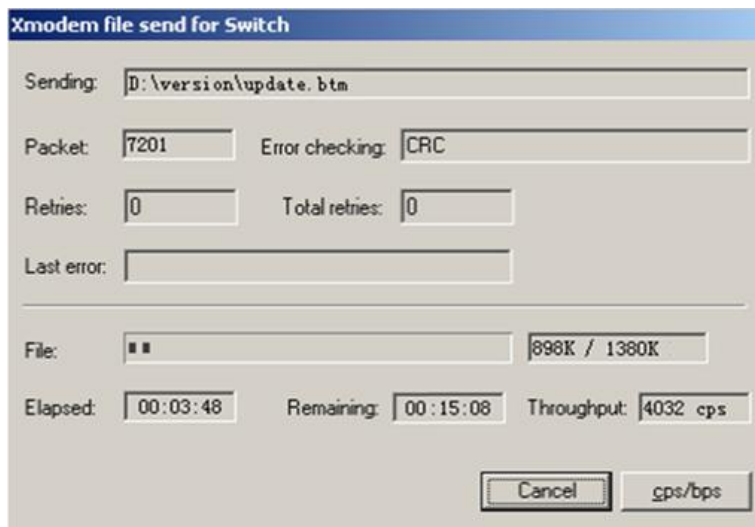
**Figure 14 File transmission dialog box**



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 9600 bps, restore it to 9600 bps at the prompt, as described in step 4.a. If the baud rate is 9600 bps, skip this step.

```
Please change the terminal's baudrate to 9600 bps, press ENTER when ready.
```

---

**NOTE:**

The console port rate reverts to 9600 bps 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.