Switch 8800

V3.01.21 BASIC & ADVANCED VERSION RELEASE NOTES

http://www.3com.com/

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Contents:

Chapter 1 Introduction

1.1. Scope

These release notes summarize operational requirements and issues for the following Switch 8800 software releases:

Table 1 Software Release Numbers Addressed in These Release Notes

Software	Description
Basic & Advanced Code V3.01.21	The latest version of the Switch 8800 software
Boot Code V118	The latest boot code running on the Switch Fabric
Boot Code V107	The latest boot code running on the I/O Modules

1.2. Online Resources

To obtain a copy of the *Switch 8800 Installation Guide*, visit the 3Com Web site:

http://support.3com.com/infodeli/tools/switches/8800/Installation_Guide.pdf

To obtain a copy of the *Switch 8800 Command Reference Guide*, visit the 3Com Web site:

http://support.3com.com/infodeli/tools/switches/8800/Command_Reference.pdf

To obtain a copy of the *Switch 8800 Configuration Guide*, visit the 3Com Web site:

http://support.3com.com/infodeli/tools/switches/8800/Configuration_Guide.pdf

To obtain current software updates (maintenance releases) and associated release notes for the Switch 8800 and other 3Com products, visit the 3Com Web site:

http://www.3com.com

1.3. Enhancements to Software

This V3.01.21 release of the Switch 8800 software now includes the following enhancements:

- Multicast Source Discovery Protocol (MSDP) Support
- TACACS+ Support
- Port Mirroring across modules
- Support for new I/O modules
- POE Support
- LACP Support
- Link Aggregation across modules
- VLAN Based ACL Support

- VLAN VPN Support
- Super VLAN Support
- Isolate User VLAN Support
- VLAN 1 Minimization
- Equal Cost Multi Path (ECMP) Support
- MAC Based Authentication Support
- Voice VLAN Support
- Guest VLAN Support
- Password Control
- DHCP Server Support
- Jumbo Frames Support
- Secure Shell (SSHv2) Support
- Secure FTP (SFTP) Support
- Multi Protocol BGP (MBGP) Support
- MPLS (Multi Protocol Label Switching) Support
- Label Distribution Protocol (LDP) Support
- BGP/MPLS L3VPN Support

1.4. System Requirements

Each Switch 8800 system has these minimum system requirements:

System	Fabric	Power Supply	Fan Tray
Switch 8800 14-Slot Starter Kit (3C17500)	1	1	2
Switch 8800 10-Slot Starter Kit (3C17501)	1	1	1
Switch 8800 7-Slot Starter Kit (3C17502)	1	1	1

1.5. Support for New Modules in This Release

Note: In order for PoE to be supported in the Switch 8800, the PoE Power Entry Module (3C17510) must be installed in the chassis and *the PoE* Power Rack (3C17509) connected. PoE is supported on two modules (3C17528) and (3C17532) but need an upgrade kit (3C17529) per module to enable support of PoE on these modules.

3Com Part #	Module Description
3C17525	3Com Switch 8800 1-port 10GBASE-X (XENPAK) MX Advanced Module
3C17527	3Com Switch 8800 2-port 10GBASE-X (XFP) MX Advanced Module
3C17526	3Com Switch 8800 4-port 10GBASE-X (XFP) Module
3C17528	3Com Switch 8800 48-port 10/100/1000BASE-T (RJ45) Module
3C17530	3Com Switch 8800 24-port 1000BASE-X MX Advanced (SFP) Module
3C17531	3Com Switch 8800 24-port 10/100/1000BASE-T MX Advanced (RJ-45) Module
3C17532	3Com Switch 8800 48-port 10/100/1000BASE-T (RJ45) Access Module
3C17518	3Com Switch 8800 1G Switch Fabric Memory UPG Kit
3C17509	3Com Switch 8800 PoE Power Rack
3C16884	3Com SW7750/SW8800 PoE Power Supply
3C17529	3Com Switch 8800 PoE Option (PoE DIMM Module)
3C17510	3Com Switch 8800 PoE Entry Module

Chapter 2 Issues Fixed In Switch 8800 V3.01.21

This section describes issues fixed in Switch 8800 V3.01.21 features in the following areas:

2.1. 802.1x

802.1x requires DHCP server on the network to function properly.

2.2. ARP

Switch 8800 is not creating ARP entries when it receives a gratuitous ARP.

Switch 8800 loses static ARP when IP interface is modified to the same subnet.

2.3. Command Line Interface (CLI)

User may get warning message "SW8800/14-2B/2005 DIAGCLI/5/LOG_WARN: [RCVP]:"

The interface counter format has been changed to be consistent with other 3Com Modular LAN Products.

Traps must be enabled by default when creating target-host (trap destination). This issue has been fixed.

2.4. GMP Query

Packets dropped when igmp-snooping is not enabled on a VLAN

2.5. Jumbo Frames

Switch 8800 did not support Jumbo Frame size up to 9216

When Jumbo Frames is disabled, MAX Size Tagged Packets are dropped. These are packet sizes between 1518 and 1522.

2.6. System Management

In some situations, flash corruption could be experienced on Master Fabric. This fix requires a boot code upgrade.

2.7. SNMP

SNMPv2c was not supported in the Basic Version Software.

2.8. Multicast Protocol

Share tree entry did not get created in PIM routing table when system receives PIM join.

2.9. QoS

CoS-local-precedence-map did not show correct information.

2.10. STP

Two new STP commands were not in CLI.

Chapter 3 Known Issues For Switch 8800 V3.01.21

These Release Notes offer updates on Switch 8800 V3.01.21 features in the following areas:

3.1. Multicast Protocol

In some cases, multicast traffic is not supported on ports with overlapped VLANs. As a result, some clients will not be able to receive multicast traffic. 3Com recommends that you implement either fully bridged multicast network or a fully routed multicast network across the link.

3.2. System Management

When FTP or TFTP is used to upgrade the Switch 8800 from the boot menu, the file will retain the original filename. The system image filename should not be renamed when the boot menu is used. This issue does not occur when upgrading the device using the CLI.

The Switch 8800 Flash is no longer able to store more than 1 image due to the size of the software.

3.3. High Availability

A user may experience a network convergence delay of up to one minute when a Switch 8800 fabric switchover occurs. A one-second switchover can be achieved when STP is disabled and RIP routing protocol is enabled.

3.4. Broadcast Storm Control

Broadcast Storm Control (BSC) is not supported on a 10-gigabit port for the Switch 8800.

3.5. STP

A port with STP disabled will still forward received BPDUs. To prevent the flooding of received BPDUs, use the STP no-flooding command.

3.6. Documentation

Please check the *Switch 8800 Documentation Addendum* for revisions and changes to the Switch 8800 User's Guide and the Switch 8800 Getting Started Guide.

3.7. Boot Code

Boot code upgrade on slave switch fabric fails if boot code doesn't exist in local flash. Copy the boot code manually to both switch fabrics.

3.8. CoS

For Switch 8800 CoS, there are prioritization issues with lower default port priorities. For untagged packets, if the ingress port user priority corresponds to a lower traffic class than the egress port user priority, the packets will be prioritized according to the egress port priority. This does not affect tagged packets. Untagged packets are classified according to the following algorithm. Traffic class (TC) equals the maximum of the TC associated with the Source Address and the TC associated with the Destination Address.

When the Switch 8800 routes traffic over a tagged link, all packets that are not previously marked with a CoS value will have a default value of 3 (Best Effort) applied to them. This only applies to routed traffic. Layer 2 switched-traffic is not manipulated by the Switch 8800.

3.9. Link Aggregation

A disconnected port is still displayed as a selected member of a Link Aggregation group.

3.10. QoS

To ensure accurate traffic policing, CBS and EBS should be at least as large the MTU of the traffic being filtered. 3Com recommends that the CBS and EBS be 2 times the size of the largest packet expected.

"traffic-redirect inbound <ip-group/link-group> <ACL number> interface" is not fully implemented in this release; Switch 8800 can't redirect the packets from one interface to another.

Traffic priority remarking is applied differently across the Switch 8800 I/O modules.

For example, 3C17516 the commands are:

```
acl number 3000
rule 0 permit ip source 10.10.10.1 0
rule 1 permit ip destination 10.10.10.2 0
```

```
#

interface GigabitEthernet8/1/3
port access vlan 700
traffic-priority inbound ip-group 3000 rule 0 system-index 1 remark-policed-service dscp 46
traffic-priority inbound ip-group 3000 rule 1 system-index 2 remark-policed-service dscp 46
```

This will remark the 802.1p field as well as the DSCP field.

On the MX based blades, only the DSCP field will be remarked. For example on EX blades (3C17526, 3C17532, 3C17531, 3C17511- 3C17514 and 3C17516), this is the expected/desired operation.

On EX blades (i.e. all Non-MX blades), the 802.1p field as well as the DSCP field will be remarked.

On MX blades (3C17525, 3C17527, 3C17530, 3C17531) only the DSCP field will be remarked. The behavior of the MX blades is the expected/desired behavior.

3.11. Super VLAN

The Super VLAN feature implementation on the Switch 8800 does not allow Layer 3 communication between sub-VLANs by default. This does NOT impact communication from the sub-VLANs out to the network. It only impacts communication between one sub-VLAN and another. To enable Layer 3 communication between sub-VLANs, proxy ARP should be enabled on the sub-VLANs.

3.12. Protocol VLAN

Upper level Protocol VLAN commands are missing / not working. It is recommended that you use the lower level commands as detailed below.

IP based protocol VLANs - proto ip <cr> is missing – user should use the command

```
proto mode ethernetii etype 0800
```

Appletalk based protocol VLANs –

```
proto at <cr> does not cover all encapsulations of Appletalk
```

Users should use the following commands instead

```
proto mode ethernetii etype 809B
proto mode snap etype 809B
```

if ip ARP is desired – should use the command

```
proto mode ethernetii etype 0806
```

if Appletalk ARP is desired – should use the command

```
proto mode ethernetii etype 80F3
```

proto mode snap etype 80F3

3.13. DHCP Relay

There have been major changes to the DHCP relay commands in this release. No user action is required during software upgrade as existing configurations will be automatically upgraded.

Please refer to the new configuration and command reference manuals for info on setting up this feature. Please refer to the new documentation while setting up this feature.

3.14. RADIUS

The Radius feature has undergone changes from the initial release of the Switch 8800. Users should ensure that the following actions are taken when setting up Radius.

Under domain system - scheme radius scheme now needs to be set. In other code versions, this was set by default.

If an accounting server is not present – user should set accounting to optional. Otherwise log-in will fail when the accounting server is not found.

A super password should be set. When logging in thru RADIUS, the super command will be required to access the full set of system commands.

3.15. ARP

New commands exist in this release that controls the following:

- Size of the ARP table.
- ARP entries are reserved for Aggregated Links.
- ARP entries available on the fabric/chassis.
- ARP entries available for single ports.

The ARP table does not show Aging time.

See the *Switch 8800 Documentation Addendum* for further information.

A Switch 8800 with all MX blades (e.g., 3C17531) can learn 8K ARP entries per blade and up to 64K ARP entries per chassis. 7 aggregated link groups are supported. With ARP max-agg at default, it is possible to learn 8K entries on the first 4 link aggregations. However, the last 3 link aggregations will only learn 1K each. Setting ARP max-agg to 8K allows a more even distribution of ARP entries, but across the chassis only about 32K entries will be learned.

3.16. LACP

On this product release aggregation indices are reserved for various purposes. Please note that the first LACP index is 193.

Aggregation Indices 1 thru 31 are reserved for manual and static aggregations.

Aggregation Indices 32 thru 64 are reserved.

Aggregation Indices 65 thru 192 are reserved for future aggregation types.

Aggregation Indices 193 and above are available for LACP.

3.17. Isolate User VLAN

The isolate user VLAN feature is not included in the *Switch 8800 Configuration Guide* or the *Switch 8800 Command Reference Guide*.

This feature is used, generally in conjunction with VLAN based access lists, to isolate servers on the same LAN segment from one another. This prevents an unauthorized user from gaining control of one server and using it to attack other devices in your network. Please see the *Switch 8800 Documentation Addendum* for further information on this feature.

3.18. Boot Loader

When using the boot boot-loader primary <*codeversion*> command without a path (e.g. cf:/ or flash:/), the default is not always flash.

Caution should be taken when specifying a code version. Use the full path name if in doubt. Use the “display boot” command to verify that the correct agent code has been specified.

3.19. ACL

The default application order for the ACL rules is configuration order. This means that the rules are applied in the order entered. This can be changed to auto order by using the command ACL number xx match-order auto. In auto order, rules with a smaller range will dominate. For example: For example: a deny rule for a host will dominate over a permit rule for a LAN segment and traffic from that host will be disallowed.

User ACLs are no longer supported in the software. Basic, Advanced or link ACLs should be used instead.

3.20. Jumbo Frames

The minimum jumbo frame size supported is 1552.

The 2 port 10 Gigabit Module (3C17512) supports Jumbo Frame sizes of 1518, 1536, 1552, 9022, 9192 and 10240. Setting the jumbo frame size to a value other than these supported values will automatically set the value to the next higher jumbo frame size. For example, setting the jumbo frame to 9216 will set the jumbo frame size to 10240 for the port.

3.21. SFTP

The Switch 8800 V3.01.21 supports one SFTP connection only.

When **WinSCP** software is used as a SFTP client, it can not open the sub-directory under the Switch 8800 flash. The files on the Switch 8800 flash are given wrong file size and date. For example, the file size is indicated as "0" and the date is given as "12/30/1899 12:00:00:00AM".

SFTP user login occupies one VTY user interface but it is not listed from "display users" command.

3.22. SNMP

For the SNMP variable h3cSysImage, the software does not return any rows.

In previous versions of the Switch 8800 software, the default SNMP Engine ID was made up of the iana number (8000002b) plus the system's MAC address plus 6877. In this version, the last 2 bytes (6877) have been dropped from the SNMP Engine ID.

For the SNMP variable h3cFlhPartSpaceFree, the value is returned in bytes.

For the SNMP variables h3cFlhOpTable and h3cFlhPartitionTable, the V3.01.21 software does not include entries for master, slave fabric and their compact flash cards for agent update.

3.23. MSTP

At the present time, the Switch 8800 V3.01.21 software does not fully support 802.1s standard mode. The Switch 8800 MSTP functionality does not interoperate with devices that support the 802.1s standard. The Switch 8800 will interoperate with the Switch 77xx V 3.01.51 software under MSTP mode.

3.24. Flow Templates

User Defined Flow Templates have been changed for Switch 8800 V3.01.21 software. In previous versions of this software, Flow Templates were global in nature. In V3.01.21, they are now slot specific. Previous Flow Templates will become invalid in V3.01.21 and will need to be re-entered to follow this new format.

3.25. MBGP

You cannot use local preference to choose a path.

When MBGP select routes, it will not select the route of the highest local preference.

3.26. MPLS

3Com recommends that you do not use more than the default number of VRFs. The CLI has options for 512 and 1024 VRFs as well as the default of 256. Only 256 VRFs (virtual routing and forwarding instances) are supported. More than 256 VRFs may result in network stability problems.

To determine the state of an ldp adjacency, the command display *MPLS ldp session* should be used rather than the command display *MPLS ldp peer*.

3.27. Super User Password

The **ls.pwd** file is where the super user password is stored. This file is created automatically when super user password is configured. Do not delete this file, otherwise the super user password will be lost. Please remember to backup this file in addition to the configuration file. Once this file is deleted, there is no way to retrieve the existing super user password. If this should happen, you must create a new password for the super user.

3.28. 802.1x

When Microsoft Windows 2000 IAS server is enabled with DNS server/client services and the Preferred DNS server address is configured on the NIC card, 802.1x Authentication may fail the first authentication from 802.1x client side and request authentication twice. 3Com suggest that you remove the DNS server address on the NIC card or use the loopback IP address (127.0.0.1).

3.29. SSHv2

The Tectia Client v5.0 software is not supported for use with the Switch 8800 V3.01.21 software when it is configured as an SSHv2 server.

Chapter 4 Upgrading Software

IMPORTANT NOTES:

Always save the configuration file before upgrading software images. At the present time only 1 image will fit onto the Switch Fabric Flash memory. For a backup image, you will need to utilize the Compact Flash.

- To upgrade the software application image of a 7, 10 or 14-slot Switch 8800, use the applicable procedures in sections below for upgrading through FTP, Boot Menu, Xmodem, or TFTP. FTP and tftp are much quicker then using the boot menu procedure or Xmodem. Xmodem is much slower download speed because the serial port is used.
- Unless indicated otherwise, the examples use the slot numbering for a 7-slot chassis. Slots 0 and 1 on a 7-slot contain the master and slave fabrics respectively. These slots correspond to slots 4 and 5 on a 10-slot chassis and to slots 6 and 7 on a 14-slot chassis. The examples also assume that the master fabric is in the lower numbered slot – which is usually but not always the case.
- When setting the boot-loader – always use the full pathname flash:/, slot1#flash, cf:/, slot1#cf:/ and confirm that the file has been set correctly using the **dis boot** command.
- The fabric flash is not large enough for a primary and backup image. The primary image should be stored on the fabric flash(es). The backup file should be stored on the compact flash(es)

- If a compact flash is used – ensure that it is recognized when the **dir cf:/** or the **dir slot1#cf:/** commands are issued. If not recognized – it may not be formatted correctly for use with the 8800. If necessary, use the **format cf**: command with caution.

Before you upgrade the software image, there are several things to remember:

- After you install the redundant fabric module, you must wait for a several minutes until a CLI message indicates that the slave is ready, then save the configuration. You may also use the command **dis switchover state** to verify the synchronization state. Fabrics are synchronized when the message real time and routine backup is displayed. For example:

```
Fabrics are NOT synchronized:
<SW8800>dis switchover state
HA FSM State(master): Waiting batch backup request from slave.

Fabrics are synchronized:
<SW8800>dis sw st
HA FSM State(master): Realtime and routine backup to slave.
```

- When upgrading thru the boot menu, use the management port on the master fabric to download application code. For TFTP/FTP, you can use the management port or a VLAN interface.
- You must set the boot-loader file to the V3.01.21 file after you download it.
- After you upgrade both fabrics and upgrade the BootROM code (section 4.5) and **save** the configuration, then you must reboot the switch.
- You can check free space on the Switch 8800's flash and compact flash (cf:/) with the **dir** command, in user view. Example: For a 7-slot chassis – master fabric in slot 0 - the commands **dir**, **dir cf**:/, **dir slot1#flash:/** and **dir slot1:cf:/** are required to check free space on the master fabric, master compact flash, slave fabric and slave compact flash, respectively.
- You may need to delete files and clear the recycle bin (using the **delete *file*** and **reset recycle-bin** commands) to make room for a new application image file. These commands (**delete <slot1#flash:/file**> or **delete <slot1#cf:/file>**and **reset recycle slot1#flash:/** or **reset recycle slot1#cf:/**) need to be executed for both the master and the slave fabric modules. **reset recycle-bin** can take minutes depending on how many bytes are in the recycle bin.
- Another way to delete the file permanently is by issuing the **delete /unreserved filename** command. This can take minutes depending on how many bytes are in the recycle bin.

NOTE: The following examples use the file name for the basic version of the new code, 88h03_01_21rcxx.app. The file name for the basic version of the previously released software is 88h03_01_02rcxx.app

To upgrade the Switch 8800:

1. Move the existing application code from the flash to the compact flash to ensure that a valid image exists on the 8800.

   Use the following command

Copy 88h03_01_02rcxx.app cf:/88h03_01_02rcxx.app

Copy slot1#flash:/88h03_01_02rc.app slot1#cf:/88h03_01_02rcxx.app

2. Ensure sufficient space on the master and slave fabric flash(es) to hold the new application code (.app file). See dir commands described above. Delete files as necessary – see commands described above. ***We should provide the name of the app files and the approximate size of the app files.***
3. Upgrade the master fabric in Slot0 in a 7-slot chassis, Slot4 in a 10-slot chassis, and Slot6 in a 14-slot chassis using only one of the following procedures outlined in Section 4.1 (Upgrading Application Software Using FTP) or 4.2 (Upgrading Application Software Using BOOT Menu, takes a while) or 4.3 (Upgrading Application Software Using Xmodem, takes even longer) or 4.4 (Upgrading Application Software Using TFTP). *Do not issue the reboot command.*
4. Copy the new application code from the primary fabric to the backup fabric:
   - Slot0 to Slot1 in a 7-slot chassis
   - Slot4 to Slot5 in a 10-slot chassis
   - Slot 6 to Slot7 in 14-slot chassis

   Use the following command:

   Copy 88h03_01_21rcxx.app slot1#flash:/88h03_01_21rcxx.app

   it can take several minutes to copy the application code from the master to the slave. The CLI will not respond during this operation.
5. Change the boot-loader on the master to boot the new code using the following command and specify the appropriate slot for your chassis. See Step 9.
   boot boot-loader flash:/88h03_01_21rcxx.app slot 0
6. Change the boot-loader on the slave to boot the new code using the following command and specify the appropriate slot for your chassis. See Step 9.
   boot boot-loader slot1#flash:/88h03_01_21rcxx.app slot1

   You can use the **display boot-loader** command to verify that the new code will run the next time the chassis is booted.
7. Upgrade the BootROM - see section 4.5.
8. Use the **display boot** command to ensure that the boot loader has been set correctly, then issue the reboot command and enter Y at the reboot prompt so the system reboots.
9. After the Switch 8800 is running version 3.01.21 – user can then set a backup app file

```
These are the primary files the switches fabrics will load upon boot:
boot boot-loader pri flash:/88h03_01_21rcxx app slot 0
boot boot-loader pri slot1#flash:/88h03_01_21rcxx app slot 1

These are the backup files the switches fabrics will load if there is a
problem with the primary files:
boot boot-loader backup cf:/88h03_01_02rcxx app slot 0
boot boot-loader backup slot1#cf:/88h03_01_02rcxx app slot 1
```

10. Use the **display boot** command to ensure that the boot loader has been set correctly. Then upgrade the BootROM code (section 4.5). **Save** the configuration,

then issue the **reboot** command and enter **Y** at the reboot prompt so the system reboots.

11. User can verify which code is running by using the **dis version** or the _**dis version command.**

The new code will run on both Switch Fabrics.

4.1. Upgrading Application Software Using FTP

NOTE: In the following examples, the IP address of the local computer which is acting as the FTP or TFTP server is 10.10.110.1 and the image is 88h03_01_21rcxx.app. Actual IP addresses and filenames will depend on your system and software versions.

These examples assume that he Switch 8800 is set up with an IP address on the Ethernet port on the fabric. To set up the Ethernet port on the fabric with an IP address, use the following command in super-user mode:

interface m_ethernet *fabricslot*#/0/0

then:

ip address 10.10.110.2 255.255.255.0

NOTE: There is an FTP/TFTP Server utility on the 3Com.com website. Search for "tftp server". They are located in **"3Com Software Library- Utilities for 32 bit Windows".**

Before you upgrade:

- Verify that there is a connection between the FTP server and the Switch 8800 (use the **ping** command.)
- Verify that the FTP server is set up according to the manufacturer's instructions and that it is enabled and pointing to the correct upload/download directory.

Use the following procedure to upgrade software using FTP:

1. Log in to the system with super-user privileges.
2. From the Switch 8800 command line, FTP the file from the FTP server to the system.
3. If a backup fabric is installed, copy the application code from the primary fabric to the backup fabric. See step 4 on page 13.
4. Set the boot parameters to specify the file to boot the system from.
5. Upgrade the BootROM code by using the upgrade procedures in section 4.5.
6. Save the configuration.
7. Reboot the system.

The following example illustrates this procedure:

```
<SW8800>su
 Password:
Now user privilege is 3 level, and just commands which level is
equal to or less than this level can be used.
Privilege note: 0-VISIT, 1-MONITOR, 2-SYSTEM, 3-MANAGE
<SW8800> ftp 10.10.110.1
Trying ...
Press CTRL+K to abort
Connected.
220 3Com 3CDaemon FTP Server Version 2.0
User(none):anonymous
331 User name ok, need password
Password:  xxxxxxx
230 User logged in

[ftp]bin
200 Type set to I.

[ftp]get 88h03_01_21srcxx.app
200 PORT command successful.
150 File status OK ; about to open data connection
226 Closing data connection; File transfer successful.
FTP: 11706853 byte(s) received in 231.348 second(s) 50.00 Kbyte(s)/sec.

[ftp]  quit
221 Service closing control connection

#############################################################
IF CURRENTLY RUNNING THE 3.01.02 Code
- Assumes 7-slot chassis – fabrics in slot 0 and 1
#############################################################

<SW8800>  boot boot-loader flash:/88h03_01_21rcxx app slot 0
The specified file will be booted next time!
<SW8800>  boot boot-loader slot1#flash:/88h03_01_21rcxx app slot 1
The specified file will be booted next time!

#############################################################
IF CURRENTLY RUNNING THE 3.01.21 Code
- Assumes 7-slot chassis – fabrics in slot 0 and 1
#############################################################
<SW8800>  boot boot-loader pri flash:/88h03_01_21rcxx app slot 0
The specified file will be booted next time!
<SW8800>  boot boot-loader pri slot1#flash:/88h03_01_21rcxx app slot 1
The specified file will be booted next time!

<SW8800>  boot boot-loader backup cf:/88h03_01_02rcxx app slot 0
The specified file will be booted next time!
<SW8800>  boot boot-loader backup slot1#cf:/88h03_01_02rcxx app slot 1
The specified file will be booted next time!

#############################################################
UPGRADE THE BOOTROM AT THIS POINT, go to section 4.5
#############################################################

<SW8800>  save
The configuration will be written to the device.
Are you sure?[Y/N]y
Now saving current configuration to the device.
Saving configuration flash:/sw8800.cfg. Please wait...
......
Configuration is saved to flash memory successfully.
<SW8800>  reboot
 This will reboot Switch. Continue? [Y/N] y
```

For more detailed descriptions of the set up and procedures for upgrading software, see the remaining sections in this chapter.

4.2. Upgrading Application Software Using the BOOT Menu

This section illustrates an upgrade of the Switch 8800 through the BOOT menu using TFTP. You can also use FTP by entering information for FTP in Step 6.

To perform this procedure, you must have a network connection to the Ethernet port on the Switch 8800 fabric module.

After powering on the Switch 8800, the BootROM program runs automatically. The terminal displays the following information:

NOTE: If already at Boot code 118 – will see the following banner

```
            ************************************************
            *                                              *
            *        Switch 8800 Bootrom, Version 118      *
            *                                              *
            ************************************************

      Copyright(C) 2000-2005 by 3Com Corporation
      Creation date: Oct 14 2005, 16:00:02
```

Otherwise – will see the boot code version 113 prompt

```
Starting...



            ************************************************
            *                                              *
            *        Switch 8800 Bootrom, Version 113      *
            *                                              *
            ************************************************

      Copyright(C) 2000-2004 by 3COM Corporation, Inc.
      Creation date: Jul  5 2004, 10:43:58

      CPU type        : MPC755
      CPU L2 Cache    : 1024KB
      CPU Clock Speed : 400MHz
      BUS Clock Speed : 100MHz
      Memory Size     : 512MB


Flash file system init....done

Board self testing.........................
The board is steady
SlotNo of this board is 6
The MCX is existent
BootRom main system CRC check is OK
82559 register testing is OK
EPLD1 testing is OK
EPLD2 testing is OK
```

```
16c2552 register testing is OK
Please check LEDs.....................LED testing finished
The switch's Mac address is 0020.9c69.b512

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

Press Ctrl+B. The system displays:

```
Initialize flash file system. Please wait!
Password :
```

NOTE: To access the BOOT Menu, press Ctrl+B during the 5 seconds that "Press Ctrl-B to enter Boot Menu..." displays. Within 5 seconds, the system begins program decompression. At this time if you want to access the BOOT Menu, you must reboot the switch.

1. Enter the BootROM password. After entering the correct password (no password is set for the switch by default), the system will access the BOOT Menu:

⚠ ***Caution:*** While using the switch, keep in mind the modified BOOTROM password.

```
MAIN MENU

    1. Boot with default mode
    2. Boot from Flash
    3. Boot from CF card
    4. Enter serial submenu
    5. Enter ethernet submenu
    6. Modify Flash description area
    7. Modify bootrom password
    0. Reboot

Enter your choice(0-7):6
```

2. Option 1 boots from the default mode (flash or compact flash). Select option 6 to set the default mode.
3. The following menu appears.

```
Please input '0' or '1' ('0':Boot from Flash, '1':Boot from CF card)
BootDev = 0
FlashFileName = 88h03_01_21rcxx.app

The following will also appear. It is not important to set these at this
time
CF card FileName = <filename>
Change backup boot information? Yes or No(Y/N) N
```

4. The Main Menu displays.

```
MAIN MENU

    1. Boot with default mode
    2. Boot from Flash
    3. Boot from CF card
    4. Enter serial submenu
    5. Enter ethernet submenu
    6. Modify Flash description area
    7. Modify bootrom password
    0. Reboot

Enter your choice(0-7): 5
```

5. Enter option 5. The Ethernet Submenu displays

IF UPGRADING WITH THE PREVIOUS BOOT CODE (113) – YOU WILL SEE THE FOLLOWING MENU

```
          ETHERNET SUBMENU

    1. Download file to SDRAM through ethernet interface and boot
    2. Download file to Flash through ethernet interface
    3. Modify ethernet interface boot parameter
    0. Return to main menu
Enter your choice(0-3): 3
```

IF UPGRADING WITH THE CURRENT BOOT CODE (118) – YOU WILL SEE THE FOLLOWING MENU

```
          ETHERNET SUBMENU

    1. Download file to SDRAM through ethernet interface and boot
    2. Download file to Flash through ethernet interface
    3. Download file to CF card through ethernet interface
    4. Modify ethernet interface boot parameter
    0. Return to main menu

Be sure to select 4 to modify boot parameter before downloading!
Enter your choice(0-4):
```

6. Select option 3 (or option 4 if already on the current boot code) to modify the boot parameter in flash before downloading. The following information displays. Note that for the *flags* entry, you must enter **0x80** if you want to download using TFTP, or **0x0** if you want to download using FTP.

Note: Two protocols for download, tftp & ftp.

```
      You can modify the flags following the menu.
      tftp--0x80, ftp--0x0.

'.' = clear field;  '-' = go to previous field;  ^D = quit

boot device          : fei0
processor number     : 0
host name            : 8512
file name            : 88h03_01_21rcxx.app
inet on ethernet (e) : 10.10.110.2   /* Fabric Ethernet port IP addr
inet on backplane (b):
host inet (h)        : 10.10.110.1   /* FTP/tftp servers IP address
gateway inet (g)     : 10.10.110.1
user (u)             : anonymous
ftp password (pw) (blank = use rsh): anonymous
flags (f)            : 0x80          /* Set to use tftp, 0x0 for ftp
target name (tn)     :
startup script (s)   :
other (o)            :


Write flash...done!
```

7. The Ethernet submenu displays.

```
ETHERNET SUBMENU (BOOT CODE 113 Version)

    1. Download file to SDRAM through ethernet interface and boot
    2. Download file to Flash through ethernet interface
```

```
    3. Modify ethernet interface boot parameter
    0. Return to main menu

Enter your choice(0-3): 2
```

8. Enter option 2 to download to flash. The following information displays:

```
Attached TCP/IP interface to fei0.
Attaching network interface lo0... done.

boot device          : fei
unit number          : 0
processor number     : 0
host name            : 8512
file name            : 88h03_01_21rcxx.app
inet on ethernet (e) : 10.10.110.2
host inet (h)        : 10.10.110.1
gateway inet (g)     : 10.10.110.1
user (u)             : anonymous
ftp password (pw)    : anonymous
flags (f)            : 0x80

Prepare for loading.................................OK
Loading.............done
Free flash Space : 2510848 bytes
load success
```

9. The Ethernet submenu displays.

```
ETHERNET SUBMENU (BOOT CODE 113 VERSION)

    1. Download file to SDRAM through ethernet interface and boot
    2. Download file to Flash through ethernet interface
    3. Modify ethernet interface boot parameter
    0. Return to main menu

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

10. Enter option 0 to return to the Main Menu.
11. The Main Menu displays.

```
MAIN MENU

    1. Boot with default mode
    2. Boot from Flash
    3. Boot from CF card
    4. Enter serial submenu
    5. Enter ethernet submenu
    6. Modify Flash description area
    7. Modify bootrom password
    0. Reboot

Enter your choice(0-7): 0
```

The system will reboot from the memory that you configured in Step 3

4.3. Upgrading Application Software Using Xmodem

The Xmodem protocol transmits files through serial ports and supports both 128-byte and 1K-byte packets. Xmodem also supports two types of checking; normal checksum and CRC. When there is a packet error, retransmission is supported, normally 10 times.

The Xmodem protocol completes transmission by receiving and sending programs. The receiving program first sends the negotiating characters to negotiate the check means. After passing the negotiation, the sending program begins to send the packet. The receiving program checks the packet according to the negotiated means after receiving a complete packet. The acknowledgement characters are sent after passing the check and then the sending program continues to send the next packet. If the check fails, negative characters are sent and the sending program sends the packet again.

NOTE: The default console port connection is 9600 Baud, 8 Data Bits, Parity none, 1 Stop bit and Xon/Xoff flow control.

To perform this procedure, you must have a serial connection to the console port on the Switch 8800 fabric module.

After powering on the Switch 8800, the BootROM program runs automatically. The terminal displays the following information:

NOTE: If already at BootROM code 118 – will see the following banner

```
            ************************************************
            *                                              *
            *        Switch 8800 Bootrom, Version 118      *
            *                                              *
            ************************************************

      Copyright(C) 2000-2005 by 3Com Corporation
      Creation date: Oct 14 2005, 16:00:02
```

Otherwise – will see the BootROM code version 113 prompt

```
Starting...



            ************************************************
            *                                              *
            *        Switch 8800 Bootrom, Version 113      *
            *                                              *
            ************************************************

      Copyright(C) 2000-2004 by 3COM Corporation, Inc.
      Creation date: Jul  5 2004, 10:43:58

      CPU type        : MPC755
      CPU L2 Cache    : 1024KB
      CPU Clock Speed : 400MHz
      BUS Clock Speed : 100MHz
      Memory Size     : 512MB


Flash file system init....done

Board self testing.........................
```

```
The board is steady
SlotNo of this board is 6
The MCX is existent
BootRom main system CRC check is OK
82559 register testing is OK
EPLD1 testing is OK
EPLD2 testing is OK
16c2552 register testing is OK
Please check LEDs.....................LED testing finished
The switch's Mac address is 0020.9c69.b512

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

Press Ctrl+B. The system displays:

```
Initialize flash file system. Please wait!
Password :
```

NOTE: To access the BOOT Menu, press Ctrl+B during the 5 seconds that "Press Ctrl-B to enter Boot Menu..." displays. Within 5 seconds, the system begins program decompression. At this time if you want to access the BOOT Menu, you must reboot the switch.

Enter the BootROM password. After entering the correct password (no password is set for the switch by default), the system will access the BOOT Menu:

⚠ ***Caution:*** While using the switch, keep in mind the modified BOOTROM password.

1. Enter 4 in the Main Menu and press *Enter*. The Serial Submenu displays:

```
MAIN MENU

    1. Boot with default mode
    2. Boot from Flash
    3. Boot from CF card
    4. Enter serial submenu
    5. Enter ethernet submenu
    6. Modify Flash description area
    7. Modify bootrom password
    0. Reboot
Enter your choice(0-7): 4
```

IF UPGRADING WITH THE PREVIOUS BOOT CODE (113) - YOU WILL SEE THE FOLLOWING MENU

```
      SERIAL SUBMENU

    1. Download file to SDRAM through serial interface and boot
    2. Download file to Flash through serial interface
    3. Modify serial interface boot parameter
    0. Return to main menu

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

IF UPGRADING WITH THE CURRENT BOOT CODE (118) – YOU WILL SEE THE FOLLOWING SERIAL SUBMENU (IF UPGRADING BETWEEN 3.1.21 VERSIONS)

```
    1. Download file to SDRAM through serial interface and boot
    2. Download file to Flash through serial interface
    3. Download file to CF card through serial interface
    4. Modify serial interface boot parameter
    0. Return to main menu

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

2. Choose option 3 (or 4 as appropriate) to “modify serial interface boot parameter”. The following options display:

```
1: 9600(default)
2: 19200
3: 38400
4: 57600
5: 115200

please select an appropriate baudrate:
Enter your choice(1-5): 5
BaudRate is 115200 bps. Please change the terminal's speed to 115200 bps
```

3. Change the baud rate set at the configuration terminal, so that the baud rate is consistent with the selected download baud rate of the software.
4. After the baud rate setting at the configuration terminal is completed, disconnect the terminal and reconnect it. Return to the Serial Submenu and select Option 2:

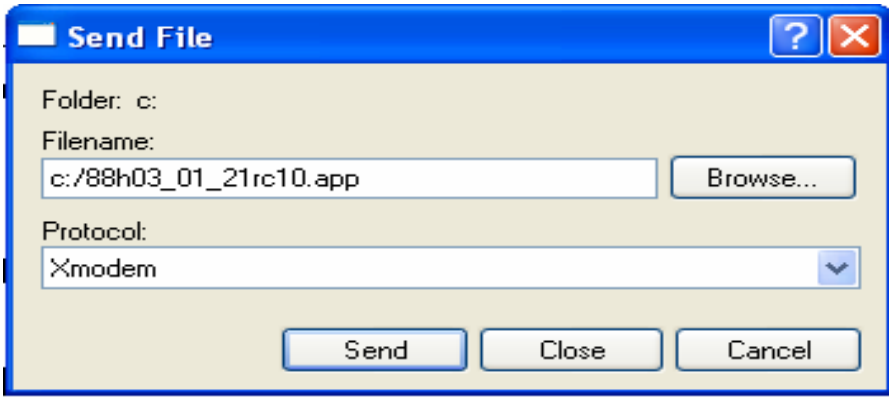
```
          SERIAL SUBMENU

    1. Download file to SDRAM through serial interface and boot
    2. Download file to Flash through serial interface
    3. Modify serial interface boot parameter
    0. Return to main menu

Enter your choice(0-3): 2

Please Select File .
XMODEM downloading ...CCC
```

5. Press Enter to start downloading. The terminal displays the following information:

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

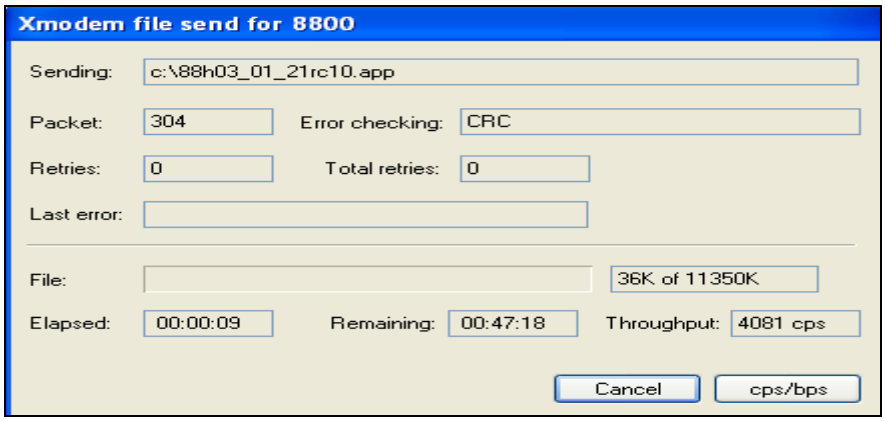
NOTE: After the terminal baud rate is modified, you must disconnect and then re-connect the terminal emulator, to enable the new setting.

1. Select [Transfer\Send File] from the terminal window.
2. Click Browse in the Send file dialog box, shown in 3 and select the application you want to download.
3. Change the protocol name for the download to Xmodem.Send File dialog box



4. Click Send. The dialog box shown in Figure 1 displays.

Figure 1 Xmodem file send dialog box



After the download is complete, the system interface is shown as follows:

Loading ...CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC done!

or

Writing Flash ……..done!

5. From the serial submenu select 0 to return to the main boot menu
6. Use option 6, as necessary to select boot from flash and the newly downloaded file.
7. From the Boot Menu, select option 2 to boot the newly downloaded file from flash.
8. Default baud rate on reboot will be 9600.

4.4. Upgrading Application Software Using TFTP

TFTP (Trivial File Transfer Protocol) is a simple file transfer protocol that is used without complex interaction between clients and servers.

The client initiates a TFTP transmission. To download files, the client sends a read request packet to the TFTP server, receives the packet from the server, and sends the acknowledgement to the server. To upload files, the client sends a write request packet to the TFTP server, sends the data packet to the server, and receives the acknowledgement from the server.

Switch 8800 provides the functions of the TFTP client.

NOTE: A TFTP Server program is shipped on the CDROM with the Switch 8800. There is also FTP/TFTP servers on 3Com.com website. Search for "tftp server". They are located in **"3Com Software Library- Utilities for 32 bit Windows".**

NOTE: In the following example, the IP address of the local computer which is acting as the TFTP server is 10.10.110.1 and the image is 88h03_01_21rcxx.app. Actual IP addresses and filenames will depend on your system and software versions.

The example assumes that he Switch 8800 is set up with an IP address on the Ethernet port on the primary fabric. To set up the Ethernet port on the fabric with an IP address, use the following command in super-user mode:

interface m_ethernet *fabricslot*#/0/0

Then:

ip address 10.10.110.2 255.255.255.0

Before you upgrade:

- Verify that there is a connection between the TFTP server and the Switch 8800 (use the **ping** command.)
- Verify that the TFTP server is set up according to the manufacturer's instructions and that it is enabled and pointing to the correct directory.

To upgrade using TFTP:

1. Verify that you are logged in with super-user privileges.
2. From the Switch 8800 command line (in user view), TFTP the image file from the TFTP server to the Switch 8800 using the following command:
   tftp <TFTP Server IP Address> get <Source File/image>< Dest File-Optional>
3. Set the boot parameters to specify the file to boot the system from, using the following command:
   boot boot-loader filename
4. Upgrade the BootROM - see section 4.5
5. Reboot the system

The following example illustrates this procedure:

```
<SW8800>tftp 10.10.110.1 get 88h03_01_21rcxx.app
  Transfer file in binary mode.
  Now begin to download file from remote tftp server, please wait... /
  TFTP:  117 bytes received in 532 second(s).
  File downloaded successfully.

############################################################
IF CURRENTLY RUNNING THE 3.01.02 Code
```

Assumes 7 slot chassis – fabrics in slot 0 and 1
After upgrading to 3.01.21 – can then set backup app file

```
############################################################
<SW8800>  boot boot-loader flash:/88h03_01_21rcxx app slot 0
The specified file will be booted next time!
<SW8800>  boot boot-loader slot1#flash:/88h03_01_21rcxx app slot 1
The specified file will be booted next time!

############################################################
IF CURRENTLY RUNNING THE 3.01.21 Code
```

Assumes 7-slot chassis – fabrics in slot 0 and 1
Sets backup file to the current version 3.01.02

```
############################################################
<SW8800>  boot boot-loader pri flash:/88h03_01_21rcxx app slot 0
The specified file will be booted next time!
<SW8800>  boot boot-loader pri slot1#flash:/88h03_01_21rcxx app slot 1
The specified file will be booted next time!


<SW8800>  boot boot-loader backup cf:/88h03_01_02rcxx app slot 0
The specified file will be booted next time!
<SW8800>  boot boot-loader backup slot1#cf:/88h03_01_02rcxx app slot 1
The specified file will be booted next time!

############################################################
UPGRADE BOOTROM AT THIS POINT, go to section 4.5
############################################################

<SW8800>save
The configuration will be written to the device.
Are you sure?[Y/N]y
Now saving current configuration to the device.
Saving configuration flash:/sw8800.cfg. Please wait...
......
Configuration is saved to flash memory successfully.
<SW8800>reboot
 This command will reboot the system. Continue? [Y/N] y
```

4.5. Upgrading BootROM Code

3Com recommends that you upgrade the BootROM code in parallel with the operational code.

The latest BootROM versions in this release are V118 for switch fabric and V107 for I/O EX modules and V1106 for the MX modules. MX modules are 3c17525 1 port 10 GBASE-X (XENPAK) module, 3c17527 2 port 10GBASE-X (XFP) module, 3c17530 24 port 1000BASE-X (SFP) module and 3c175301 24 port 10/100/1000BASET (RJ45) module. Both LSBSRP1N01118.APP and LSBLMCUA01107.APP are included in this software release.

Use the following procedure to upgrade boot code on each switch fabric and I/O modules. The slot number for the switch fabric depends on the chassis. Please download LSBSRP1N01118.APP in both master and slave switch fabrics.

1. Save the configuration by uploading it to a temporary server.

   Use one of the download procedures in these Release Notes.

2. Download the latest boot code, LSBSRP1N01118.APP and LSBLMCUA01107.APP, to master fabric.

   Use one of the download procedures in these Release Notes.

3. Copy both LSBSRP1N01118.APP and LSBLMCUA01107.APP from master fabric to slave fabric.

   Use one of the download procedures in these Release Notes.

4. Use the **boot bootrom** command to write the boot code file into the BootROM of the slots you specify in the command:

   <SW8800> boot bootrom LSBxxxxxxxxxx.APP slot 0 2 3 4