SuperStack® 3 Switch 4200 Series Software Version 2.50 Release Notes

Please use these notes in conjunction with the following documents:

- "*SuperStack 3 Switch 4200 Getting Started Guide*" Part number: DUA1730-0AAA02
- "*SuperStack 3 Switch 4200 Management Quick Reference Guide*" Part number: DQA1730-0AAA02
- "*SuperStack 3 Switch 4200 Implementation Guide*" Part number: DUA1730-0BAA02
- "*SuperStack 3 Switch 4200 Management Interface Reference Guide*" Part number: DHA1730-0AAA02

The CD-ROM supplied with your Switch contains the Management Interface Reference Guide in HTML format, and the Implementation Guide in PDF format.

The latest release notes can be downloaded from:

http://www.3com.com/

You can obtain the latest technical information for the Switch 4200, including a list of known problems and solutions, from the 3Com Knowledgebase:

http://knowledgebase.3com.com

Software License Agreements

Before you use the SuperStack 3 Switch 4200 Series software, please ensure that you read the license agreement text. You can find the license.txt file on the CD-ROM that accompanies your product, or in the self-extracting .exe file that you have downloaded from the 3Com website.

About this Software Version

The version 2.50 agent is a compatible super set of that provided by all previous versions of this agent. This agent provides support for the following:

Product	Hardware Version (up to and including)
Switch 4226T (3C17300)	03
Switch 4250T (3C17302)	03
Switch 4228G (3C17304)	04

The latest hardware versions shown above will only work with Software Update Utility version 3.19 or later. This can be downloaded from the 3Com Web site.

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Enhancements

- The Configuration Save and Restore facility is supported in this release of the agent software. Note this is required if the Switch 5500 Configuration Conversion Utility is utilized to migrate configurations from a Switch 4200 to a Switch 5500. See the section "Documentation Errors and Omissions" for further details.
- CLI commands may now be edited and previous CLI commands retrieved. See the section "Documentation Errors and Omissions" for further details.

Upgrading to Software Version 2.50

3Com strongly recommends that you upgrade all 4200 units which are running a previous software agent to version 2.50 software agent.

Points to note when using the Switch 4200 Series

Apple networks and Rapid Spanning Tree

With default settings there is a 4 second delay between a front panel port activating its link status and passing network traffic. Users of Apple networks, which may transmit initialization packets during this time, may not have been able to see some network devices. The delay between a port activating its link status and passing network can be reduced for edge devices by setting the stpFastStart value for a port to "Enable". See the section "Documentation Errors and Omissions" for further details.

Head-of-Line Blocking

If the Head of Line blocking settings have been changed from the default QoS setting, under very heavy network loading, where servers transmit large numbers of consecutive frames to multiple clients (i.e. using large window sizes), it is possible that other data streams may be disrupted due to local frame buffer capacity becoming exhausted. This could affect other network applications and in extreme conditions could cause stacked units to reconfigure from stacked to individual units in an unpredictable way. See the section "Documentation Errors and Omissions" for further details.

Configuring Link Aggregations

When creating a manual aggregation between two systems, the ports in the aggregation must not be physically connected together until the aggregation has been correctly configured at both ends of the link. Failure to configure the aggregation at both ends before physically connecting the ports can result in a number of serious network issues such as lost packets and network loops.

When configuring a manual aggregation, all member ports can only be selected from the same unit. Automatic aggregations (using LACP) can include ports from different units in a stack. However, only member ports from a single unit in the stack will be

selected for activation. Upon failure, or disabling LACP on the active links, ports members from a different unit will be automatically activated (if all members on the current unit are no longer active) thus ensuring resilient connectivity.



CAUTION: *The LACP protocol is disabled by default in the version 2.xx software. Some legacy devices do not support LACP and 3Com strongly recommends LACP remains disabled on ports connected to these devices (in rare cases, if LACP is enabled on ports connected to these devices, it can result in incorrect network configurations).*

Using VLANs

The Switch 4200 implements Open VLANS. This means that if an IEEE 802.1Q tagged packet (that is, the packet that contains a VLAN ID) is received at a port and that port is NOT a member of that VLAN, the Switch does not perform any VLAN filtering. As a result a tagged packet will be forwarded if the address has been previously learned by the Switch. However, if the address is unknown, the packet will only be flooded to ports within the VLAN (s) on which the receive port is a member.

TFTP Upgrades

The Software Upgrade feature will not automatically re-establish a connection to the 3Com TFTP server if the connection is lost temporarily for more than 15 seconds. In these circumstances, the TFTP connection will timeout approximately 3.5 minutes before the upgrade can be restarted manually.

Known Problems with the Management Software

- If a port is unable to transmit packets due to an incorrect duplex mismatch setting or flow control is keeping the port continually in a pause state, management packets from the Switch can back up in the egress buffers and causes the Switch to stop passing packets on any port. Correcting the duplex mismatch and turning off flow control will fix this problem.
- When setting up a SLIP IP address and an IP address for the unit you must ensure that the assigned IP addresses are different.
- If you use Netscape to manage your Switch you may experience problems when trying to change the user password.

  3Com recommends that if you use Netscape and you need to change the password you do so via the CLI command. To do this from the Web interface Device View, use the *System* > *Telnet* > *Connect* operation to start a Telnet connection and then use the **`security device user modify`** CLI command.
- If the error, `The previous command window is still active` is displayed when using the Web interface, you must close that window before you can select another operation. You should then press *Reload* (Netscape) or *Refresh* (Internet Explorer) in your Web browser.
- The Switch 4200 Web interface can only be accessed by one of the following Web browsers:

- Microsoft Internet Explorer v4.0, v5.0, v5.5 and v6.0
- Netscape Communicator v4.5, v4.6, v4.7, v4.76 and v6.2

- The Switch 4200 Web interface can be accessed on any of the following PC operating systems:
  - Microsoft Windows 95
  - Microsoft Windows 98
  - Microsoft Windows NT v4.0
  - Microsoft Windows 2000
  - Microsoft Windows XP
  - Solaris 2.6



Netscape Communicator v6.2 is not supported on Microsoft Windows 95.



Solaris 2.6 platforms can only be used with Netscape Communicator v4.76.

- The spanning tree mode is not synchronized between units following a stack merge. This should not cause any problems for the network since rapid spanning tree is fully backward compatible with legacy spanning tree. Where units within the stack are operating in different spanning tree modes, the User interface are not capable of reflecting this. They will choose one setting or the other when asked to show the current spanning tree mode. When a new spanning tree mode is configured in the stack (via the user interface of any unit), this will be set on all units within the stack regardless of whether the spanning tree mode previously differed from unit to unit.
- When adding or removing units from an existing stack it is advisable to ensure that traffic loads are at a minimum. This is particularly important when multiple LACP aggregations are present. The reason for this is that during the network reconfiguration that will accompany the addition or removal of a unit, it is possible that momentary network loops will occur. When a lot of traffic is present these loops could take several minutes to resolve and in the worst case may result in the need to reset the stack to complete the resolution.
- The default set-up for Netscape 4.76 on Solaris 2.6 may cause problems when using *System->Telnet->Connect*. By changing the application that Netscape launches from 'xterm' to 'dtterm' the problem is overcome. This is accomplished as follows:

1. From the *Edit* menu in Communicator, select 'Preferences'. Click the arrow next to *Navigator* to expand its sub-menu and select *Applications*. In the Applications list in the right-hand pane, click on the row that has *telnet* in the Description column and click the *Edit* button. In the *Edit* window, the text in the *Application*: box should be changed from:

   ```
   xterm -e telnet %h %p
   to
   dtterm -e telnet %h %p
   ```

2. Click *OK* to close the *Edit* window and click *OK* to close the *Preferences* window. *System->Telnet->Connect* should now connect correctly with the device.

Known Incompatibility Issues

An incompatibility exists in the default settings for Link Aggregation between the Switch 4200 and the following 3Com products when using fiber interfaces:

- Switch 4007
- Switch 3900
- Switch 9300
- CoreBuilder 9000 family
- CoreBuilder 9400
- CoreBuilder 3500

The products listed above disable auto-negotiation when a port is added to an aggregated link (trunk).

In order for link aggregation (trunking) to work, ports at either end of an aggregated link (trunk) must be identically configured. To resolve the incompatibility, you must complete the following steps:

1. On any of the Switches listed, you must disable TCMP on a trunk (aggregated link) that connects to a Switch 4200 Series, as TCMP is not supported on the Switch 4200 Series.
2. You must disable auto-negotiation on the GBIC fiber ports on the Switch 4200 Series prior to placing them in an aggregated link.

   Refer to the Management Interface Reference Guide on the CD-ROM that accompanies the Switch 4200 Series for more information about configuring aggregated links.



On the Switch 4200, aggregated links are only supported on the 10/100/1000 Mbps and GBIC ports.

Software Upgrades

To upgrade the software on the Switch do the following:

1. Locate the upgrade software for the Switch and run the (`filename.exe`) executable file.
2. If necessary, download the TFTP server applications into the management station.
3. Install the TFTP server (file name `3ts01_04.exe`) on a Microsoft Windows 95, 98, NT or 2000 machine.
4. Launch the TFTP server application.
5. Point the Upload/Download default directory on the TFTP server to the directory where the upgrade file is located.
6. Make sure the Switch being upgraded has an IP address assigned to it.
7. Telnet to the Switch.
   a. To Telnet to the Switch, click *Start* in Microsoft Windows 95, 98, NT or 2000 machine.
   b. Click *Run*.
   c. In the text area, type **`telnet IP address`**
   d. Click *OK*.
8. Press *Enter* to receive a login prompt.
9. Log into the Switch management.
   a. The default user login is *admin*.

b There is no default password for admin (press *Enter*).

10 From the main menu, select *System*, then select *Control*.

11 Select *SoftwareUpgrade*.

12 Enter the IP address of the TFTP server connected to the Switch.

13 Enter the upgrade file name.

a The message will appear, '`Software Upgrade in progress.....`'.

b The entire time the upgrade is in process, the Power/Self test LED will flash ON/OFF Green, and a series of dots will indicate that the upgrade is progressing successfully.

c When the software upgrade is complete, the Switch will reboot itself.

3Com Network Management

3Com Network Supervisor (3C15100E)

3Com Network Supervisor is an easy-to-use application that discovers and manages up to 1,500 IP devices and 3Com NBX telephones.

For more information on how to obtain a copy of 3Com Network Supervisor, please visit:
`http://www.3com.com/3ns/`

However, for larger networks and access to more major features, 3Com recommends 3Com Network Director, described below.

3Com Network Director (3C15500)

3Com Network Director is a standalone application that allows you to carry out key management and administrative tasks on mid-sized enterprise networks. By using 3Com Network Director you can discover, map and monitor all the devices on the network, backup and restore 3Com device configurations, configure 3Com devices across the network in a single operation (including VLANs and Traffic Prioritization) and gather historical performance information for your network and generate flexible reports.

For more information on how to obtain a copy of 3Com Network Director, please visit:
`http://www.3com.com/3nd/`

After installation, click *LiveUpdate* to add support for the latest 3Com products.

Documentation Errors and Omissions

Spanning Tree stpFastStart operation

In the following documents:

- Switch Implementation Guide (DUA1730-3BAA02) page 38.
- Switch 4200 Management Interface Reference Guide (DHA1730-0AAA02)

the description of the **`bridge port stpFast-Start`** CLI command, is incorrect for version 2.50 software. Please refer to the following for details.

Prior to the release of the v2.20 agent, in order to avoid the risk of temporary loops, edge ports with stpFastStart enabled enforced a 4 second delay before entering forwarding mode. This delay is incompatible with AppleTalk networks. In version 2.50 software, RSTP can now operate ports in one of three different modes: "Enable", "Auto" or "Disable".

By default front panel ports operate in "Auto" mode. This is the same behavior as the previous stpFastStart implementation with a 4 second delay before the port starts forwarding packets.

"Enable" mode causes ports to enter forwarding mode immediately after becoming active. This mode should be used for ports connected to edge devices in an AppleTalk network.

"Disable" mode has not been changed and still causes a maximum 30 second delay before a port becomes active. The stpFastStart mode can be set using CLI management.

Head of Line blocking (HOL)

The CLI **`trafficManagement qos traffic-Queuecommand holProtection`** gives the ability to adjust the Head of Line blocking settings for Fast Ethernet ports, has been added in this release.

The QOS setting

This sets the Switch to use a maximum of 12 packets of egress buffering per port (potentially 18k Bytes) for normal priority traffic. This setting (which is the default), provides the flexibility to ensure that high priority traffic can be provided with sufficient extra buffering. Ingress flow control will not normally be required with this setting. Data protocols operating window sizes greater than 18k Bytes will not work efficiently with this setting.

The Data setting

This increases the maximum egress buffer per port to 32K Bytes, or 27 packets. This setting is suitable if data applications require a window size of up to 32k Bytes. Under these circumstances, high priority traffic may not always be able to access sufficient Switch buffers to guarantee the expected QOS.

The Advanced settings

Allow expert users to set HOL operation to suit specialist applications:-

- Disable HOL

  This option disables HOL completely. All egress and ingress buffers will be used on demand and QoS settings will be largely ineffective in buffer overload situations. When ingress buffers are exhausted, flow control will operate.

- Enable HOL with specific HOL values

  A value between 10k and 50k Bytes of egress buffering can be selected.

Please note the CLI **`physicalInterface ethernet flowControl`** command should be set to enable if you are disabling the Head Of Line Blocking Protection or using large HOL buffer values and you wish flow control to operate.

If very large HOL values are used, this could disrupt the stacking protocol and normal Switch stacking operation.

IGMP fastleave

You can enable or disable IGMP **`fastLeave`** for all Switch units in the stack using the modify **`fastLeave`** command on the IGMP menu.

To enable or disable IGMP **`fastLeave`**:

At the Top-level menu, enter:

```
bridge multicastFilter igmp modify
fastLeave
```

The following prompt is displayed:

```
Enter new value (enable, disable)
[disable]:
```

Enter enable or disable.

It is recommended that the **`fastLeave`** option is not enabled when multiple multicast clients are connected to a single port.

Link port traps

You can enable or disable **`LinkTrap`** on individual ports on all units in a stack using the **`linkTrap`** command on the port menu. You can only enable or disable **`LinkTrap`** on physical ports rather than logical bridge ports. Hence aggregated links do not appear at the port list prompt.

To enable or disable **`LinkTrap`** on a port:

At the Top-level menu, enter:

```
bridge port linkTrap
```

The following prompt is displayed:

```
Select Bridge ports
(AL1-AL4,unit:port...,?):
```

Enter the unit and the number of the port for which you wish to enable or disable **`LinkTrap`**.

The following prompt is displayed:

```
Enter new value(enable,dis-
able)[enable]:
```

Enter the new value for the port.

Configuration Save and Restore

The Switch now supports the configuration Save and Restore capability. The feature is managed from the CLI via the **`system backupConfig`** command or the *System* > *Backup Configuration* Web operation.

The Switch 4400 supports an identical capability and details of its implementation can be found in the Switch 4400, SuperStack 3 Switch Implementation guide (Part No. DUA1720-3BAA06) freely available to download from the Web:

`http://www.3com.com/`

CLI operation

The command line console supports cursor keys in VT100 compatible mode.

The delete, backspace and Cursor Left/Right keys modify the command line.

You can also use the Cursor Up/Down keys to recall a previous command.

In addition, the following keys can be used to edit the command line:

[Ctrl A] - moves the cursor to the start of the command line.

[Ctrl B] - moves the cursor back one character.

[Ctrl D] - deletes the character at the cursor.

[Ctrl E] - moves the cursor to the end of the command line.

[Ctrl F] - moves the cursor forward one character.

[Ctrl K] - delete all characters from cursor to the end of the line.

[Ctrl X] - delete all characters from cursor to the start of the line

Note that the Delete key now performs as a ‘Delete’ key, i.e. character to the right, rather than as Backspace.

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