CISCO SYSTEMS

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Catalyst 1800 Token Ring Switch Release Notes TRX.2.2.1 and FDU.2.2.1

November 2, 1997

This document provides release information and restrictions that apply to Token Ring module software version TRX.2.2.1 and FDDI module software version FDU.2.2.1 for the Catalyst 1800 Token Ring switch. Refer to the System Information menu (Configure...System...Display) from the local user interface to verify the software revision as TRX.2.2.1 or FDU.2.2.1.

Contents

In addition to this release note, the Catalyst 1800 documentation set includes the following documents:

Catalyst 1800 Token Ring Switch User Guide

Catalyst 1800 Token Ring Switch Cable Kit Guide

Rack mounting a Catalyst 1800 Switch

Cisco documentation and additional literature are available in a CD-ROM package. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more up to date than printed documentation. To order copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The

CD-ROM package is available as a single package or through an annual subscription. You can also access Cisco documentation on the World Wide Web at http://www.cisco.com, http://www-china.cisco.com, or http://www-europe.cisco.com.

Supported Features

The Catalyst 1800 Token Ring switch supports the following features:

- Single- and multi-ring mode operation
- Source route, transparent, and source route/transparent frame forwarding
- SNMP access for the following MIBs:
    - MIB-II (RFC 1213)
    - Bridge MIB (RFC 1493)
    - 802.5 MIB (RFC 1231)
    - SRT Bridge MIB (RFC 1525)
    - RMON (RFC 1757), Token Ring RMON (RFC 1513)
    - FDDI MIB (RFC 1512)
- Source routing end system support for SNMP
- 802.1d and IBM Spanning-Tree Protocols
- NetBIOS broadcast reduction
- Port prioritization
- Virtual LAN segment configuration
- Port security based on user configuration by hour, day, and week
- Auto insertion of cables
- Dynamic configuration for all parameters except frame-size and serial port configurations
- Dual Token Ring interface connection (TIC) front-end processor (FEP) support, permitting the same source station to communicate on more than one segment
- Telnet access to the console interface
- TFTP software image downloading
- MAC address and protocol type filtering
- Port LLC mirroring
- Enhanced MAC address display
- FDDI SMT 7.3
- TFTP upload/download of the user's configuration database

Upgrading to New Software Releases

This section explains

- How to download software upgrades from the Cisco Connection Online system (CCO) to a workstation at your site

- How to install the downloaded software on your Catalyst 1800 switch using either the console or TFTP

Getting Software from CCO

You can download software upgrades from CCO to your PC or workstation; see the section "Cisco Connection Online," page 18, for URLs, and note that you must register with CCO before using it. Registration instructions are provided at the site.

Within CCO, go to http://www.cisco.com/cgi-bin/getftp.pl/wg_catalyst_1800 to find the latest version of the software for the Token Ring and FDDI modules. Table 1 lists the files in that area.

Table 1   Release 2.2.1 Software Files

File Name	Description
CCO: t1800-tr-serial-boot.2-2-01.bin **DOS**: citr2201.cof	The 8TR module software image to be used for Xmodem serial port (console connector) download. Specifically Release 2.2.1.
CCO: t1800-tr-tftp-boot.2-2-01.bin **DOS**: citr2201.img	The 8TR module software image to be used for TFTP download over one of the LAN (802.5 or FDDI) ports on the Catalyst 1800. Specifically Release 2.2.1.
CCO: t1800-fd-serial-boot.2-2-01.bin **DOS**: cifd2201.cof	The 4TR+FDDI module software image to be used for Xmodem serial port (console connector) download. Specifically Release 2.2.1.
CCO: t1800-fd-tftp-boot.2-2-01.bin **DOS**: cifd2201.img	The 4TR+FDDI module software image to be used for TFTP download over one of the LAN (802.5 or FDDI) ports on the Catalyst 1800. Specifically Release 2.2.1.
CCO: t1800-mib.2-2-01.bin **DOS**: t18m2201.mib	ASCII text file containing the Catalyst 1800 proprietary MIB in ASN.1 format.
CCO: t1800-readme.2-2-01.pdf **DOS**: t18rnote.txt	Copies of this release note in PDF (portable document format) and ASCII text.

Download the appropriate file for each module type and the specific method you will use to move the file to your Catalyst 1800 switch (Xmodem-serial or TFTP). To perform the download by way of the serial port or TFTP, refer to the software download procedures found later in this release note.

Note If you download binary (.bin) files from CCO to a DOS system, you must change the filenames to conform to DOS file naming conventions. Use the DOS name for each file given in the table above. (t1800-tr-serial-boot.2201.bin becomes citr2201.cof.)

For example, if you download t1800-tr-serial-boot.2-1-12.bin to a DOS system, the filename may be truncated to t1800-tr.bin. Before downloading another file, rename this file citr2201.cof. (Type **ren t1800-tr.bin citr2201.cof**, or enter the name citr2201.cof as the DOS target filename for your download utility.) If you download another file without renaming the first file, the second file may

overwrite the first one if the first eight characters of their names are the same.

Cisco recommends that you use the filenames listed in Table 1. If you cannot do that, be sure that the string "tr" occurs in the name of every Token Ring software file, and that the string "fd" occurs in the name of every FDDI software file. This is required when you are configuring file names for TFTP download.

Using the Console to Upgrade Software

Use this procedure to load new Catalyst 1800 software from your PC or workstation to a Catalyst 1800 switch. (See the section "Getting Software from CCO," page 3, for instructions on downloading software from CCO to your PC or workstation.) Release TR.01.4.0 or later supports dual-board 16-port operation. Both 8-port boards must be updated with the new image for proper operation of the switch. To update a dual-board system, place the console cable on each board and perform the update procedure that follows and reboot the switch.

Use a terminal emulation program that supports the Xmodem protocol, such as PCPLUS, to download the new image from the workstation to the Catalyst 1800 switch.

Step 1 Attach the console cable (originally shipped with the switch) from the terminal emulation system to the front console port on the switch. (See the *Catalyst 1800 Token Ring Switch Cable Kit Guide* for more information on how to connect the console cable.)

Step 2 Use the software download command (System....Download). This places you at the monitor prompt (=>). (If unreadable bytes appear on your screen or the prompt does not appear, press **Return** several times so that the monitor can autobaud the serial line.) It is recommended that you set your terminal emulation program communication speed to 38,400 bps. (At that rate, a download normally takes 4 to 5 minutes.)

Step 3 At the monitor prompt (=>), type **do** for download. The message "Downloading" appears. The monitor is now ready to accept the Xmodem download file.

Step 4 Start the Xmodem download procedure. (In PCPLUS, do this by pressing the **Page Up** key, selecting the Xmodem download protocol from the menu (X), and typing in the download image name, for example **citr2201.cof** for the Token Ring card.)

Step 5 Once the image has been downloaded, a "Download Complete" message and the monitor prompt are displayed.

Step 6 Type **go**. Messages are displayed to indicate that the image is being stored in Flash for use by subsequent reboots.

Step 7 To start the new, downloaded image, switch the system off and then on again.

The switch starts running the new code when you power it on. The Password menu appears after boot-up.

⚠ **Caution** If you have upgraded the software version to TRX/FDU.2.2.1, but want to revert back to an earlier version, you should save your configuration file to a TFTP server using the **configure tftp upload start changes y** command. Then you must reset and re-key the database manually.

> **Note** When you perform a software download over an asynchronous modem, configure the modem for Auto-answer and Disabled result codes. To do so, execute the following standard modem commands:
>   ATS0   Enables auto-answer
>   ATQ1   Disables result codes

Using TFTP to Upgrade Software

You can use TFTP to load new Catalyst 1800 software from your PC or workstation to a Catalyst 1800 switch. (See the section "Getting Software from CCO," page 3, for instructions on downloading software to your workstation.) TFTP upgrades can be performed while the switch is in operation. Switching continues with only a 5-second pause in operation while the image is being stored in the on-board Flash memory. To configure and initiate a TFTP download, refer to the TFTP menu selection (Configure...TFTP) on the console. Use the files citr2201.img and cifd2201.img to upgrade using TFTP.

SNMP Implementation Notes

A proprietary MIB is now supported. For the latest version of the MIB, visit Cisco Connection Online (CCO), or contact Cisco Systems customer support at 1-800-553-2447. CCO and customer support are available 24 hours a day, 7 days a week.

The following notes describe the implementation of the standard MIBs in the switch:

> **Note** If you are implementing a Network Management Client for this switch or need a more detailed view of the MIB implementation, request the Network Management FAQ (Frequently Asked Questions listing) from customer support.

- IpNetToMedia objects have read-only (R/O) access.

- Bridge Group Static is not implemented.

- The dot1dBase group reports information on logical bridge ports, but not physical ports. Therefore, a switch operating in single-ring mode reports zero (0) dot1dbasenumports objects.

- The dot1dBasePortCircuit object returns the object identifier (OID) to be used to gain access to the segment (ring) number associated with the logical bridge port. The dot1dBaseIfIndex returns the ifIndex of the first physical (If) port of the logical segment represented by dot1dBasePortNum.

- The dot1dStp group reports information on logical bridge ports, not physical ports.

- The dot1dSr group reports information on physical ports. This includes the dot1dPortPair group. To access a bridge port pair in this group, use the first physical port number of a logical segment for the LowPort and HighPort instances.

- The dot1dTp group reports information on physical ports.

- An SNMP client is not permitted to physically disable an ifInterface in the switch that it is conversing over. This applies to both the ifAdminStatus and the dot5Command objects.

- When you assign the dot1dSrPortLargestFrame object a decimal value in the proper range, the next largest valid SNMP frame size is used. For example, if you assign the dot1dSrPortLargestFrame object a value of 1000, the object is actually assigned the value 1112. The console interface also rounds up to the next SNMP-supported value for the maximum frame size.

- In the group of available community names, only one has been assigned a default. There is a read-only community name which is set to a default of *public*. These parameters can be set and modified under the Configuration menu (Configure...SNMP...).

Caveats: Known Restrictions and Limitations for TRX.2.2.1 and FDU.2.2.1

General Caveats

- When the switch is in a spanning-tree configuration and the FDDI port is configured for SRTB mode and is the forwarding port in the spanning-tree topology, a transparent session may not open when you are trying to converse with a server supporting source routing. If this occurs, reconfigure the FDDI port to SRT mode. If that is not possible, load route.com on your client. (DDTs no. CSCdi74768)

- When you are changing a station from transparent to/from source routed in FDDI environments, it may be necessary to clear the MAC address table (System...Clear...MAC Addresses) after the change to provide connectivity through the switch. (DDTs no. CSCdi74768)

- The current release uses a default inactivity timer of 5 minutes to end a Telnet session. A temporary command is available in the System Timers menu (System...Internal...Timers), the TCP Inactivity timer. To reconfigure this timer, specify the value in seconds at twice what you would like for the actual timeout value. For example, if you prefer a 1-minute timeout (60 seconds), specify 120 seconds.

- If a Catalyst 1800 switch has in its configuration a ring number that exists elsewhere in the network, even if the port is inactive, traffic from that ring will not be able to pass through the switch. Example:

    PC1 — ring0x01 — Bridge — ring0x02 — Cat1800 — ring0x03 — PC2

    Suppose the Catalyst 1800 has port 5 (for example) as ring 0x01. Even if the port is inactive/disconnected, traffic from PC1 will not be forwarded to ring 0x03 where PC2 is.

    This operation is expected in the Catalyst 1800. The PC1->PC2 traffic is being dropped by the Catalyst 1800's loop-detection algorithm. When the Catalyst 1800 detects a ring number in the RIF that is different from the ring number of the port the frame was received on, yet is a valid ring number in the configuration, it assumes the frame already traversed this switch.

    To work around the issue, ensure the VLAN ring number configuration is valid by removing duplicate ring numbers in the network, or attach the port that has the duplicate ring number to its associated network. (DDTs no. CSCdj08120)

- Changing the ring number of the FDDI port causes the STP path cost to be set to 63 (Token Ring default STP path cost). To work around this problem, set the STP path cost for the FDDI segment after the ring number has been assigned. (DDTs no. CSCdi74635)

- An FDDI should update its upstream neighbor address (UNA) when it receives a NIF frame where the frame control is 4F, the destination address is broadcast, and the EFS indicators are RRR. If a station cuts off one or more of the EFS indicators (and replaces it with idle), downstream stations should not update their UNA. The FDDI port on the Catalyst 1800 does update its UNA when it should not. (DDTs no. CSCdi80770)

- If link errors are sent at a rate greater than LER_Alarm but less than LER_Cutoff, the FDDI port may drop (then regain) the connection. (DDTs no. CSCdi80782)

- In order for the ring speed modification to take effect, you must either reboot the system or disable the port, then enable it. (DDTs no. CSCdi81281)

- When you upload 'Changes,' note that the locally administered MAC addresses are not commented out in the configuration file. You should be cautious in downloading the configuration file to other switches. (CSCdj37012)

Console Interface Caveats

- The initial menu presents a password prompt. The default password is *public*. You can change the password by adding an SNMP community name with read-write (R/W) access. That community name becomes the new password.

- You can configure the local console interface to work with either a graphics ANSI-compatible terminal or a terminal emulator without graphics support. This can be selected from the Configuration menu (Configure...Serial Port...Graphics).

- Enter all ring numbers in hexadecimal format. Note that both decimal and (hex) are displayed only on the system's monitor (Monitor...System) menu.

- In 12TR+FDDI and 16TR systems, attach the console cable to the bottom board for a full configuration menu. When the cable is attached to the top board, the console provides only general revision/monitoring information. All information is available when the console is attached to the bottom board.

- The options to enable and disable flow control for the serial port were removed in a previous release. (DDTs no. CSCdi74763)

- The documentation states that when you are entering commands at the console interface, you need enter only enough characters to uniquely identify a command. This rule does not apply to input strings for which the system prompts you (for example, enable and disable). For input strings a minimum of two characters is always required. (DDTs no. CSCdi83175)

- The console interface lets you enter an invalid date for a particular month (for example, the 30th day of February). DDTs no.(CSCdj51361)

RMON/Traffic Director Caveats

This version of the software supports RMON RFC 1757 (RMON base) and RFC 1513 (Token Ring specific). Traffic Director 3.3 can access the Catalyst 1800 using its standard menu interface; however, a few exceptions are noted in this section.

Traffic Director Requires a Software Patch

RMON requires a patch to Traffic Director 3.3. The patch is available through CCO; contact Cisco at 1-800-553-2447 for help in downloading the patch. (DDTS no. CSCdi74642)

Enabling Statistics/Ring Information

RMON groups are off by default. Each group on each port can be separately enabled/disabled. Follow these steps to enable or disable RMON groups in the Catalyst 1800 switch:

Step 1   Add a new agent type, specifying the interface (physical port) and IP address of the switch.

Step 2   Create a domain for that agent by selecting **Domain Manager** from the main screen.

Step 3   From Domain Manager, you need to install the new agent. Select **Install** to enter the Install Domain.

Step 4   In the Install Domain, select the agent, then select **RMON** from the Domain List.

Step 5   Select **Host** from the Enable Groups section if you would like host information (time creation, per host statistics, and so on).

Step 6   Select **OK** in the Install Domain, and Traffic Director automatically creates the RMON groups in the switch.

Enabling Ring Station Groups from Traffic Director

To enable the Ring Station groups of RFC 1513 from Traffic Director, enter the Traffic Director shell. In the shell, execute the following command for each agent that you would like to acquire ring information for:

```
dvtrstn add agent
```

In this command, *agent* is the agent you are adding, for example, P3-CAT1800.

Once you execute the command, you can exit the shell window.

Note   From CiscoView for the Catalyst 1800, if you want to obtain ring-station information immediately, disable and then re-enable the associated interface (physical port) the first time you configure a ring-station group.

Execute these commands the first time you create a new agent or enable a ring-station group. The switch stores this configuration information for subsequent reboot(s) of the switch.

General RMON Caveats

- The RingStationConfigEntry information from RFC 1513 is not available in the Catalyst 1800; therefore, the associated UpdateStats command using ringStationConfigControlUpdateStats performs no action.

- If you are using an RMON client other than Traffic Director, apply the configuration discussion in the section "RMON/Traffic Director Caveats" to the configuration methods provided by the client you are using. The Catalyst 1800 uses a standards-based generic RMON implementation.

User Documentation Caveats

Current documentation for the Catalyst 1800 switch is shipped in the box with the system.

The following changes to the user interface are not yet reflected in the *Catalyst 1800 Token Ring Switch User Guide*:

- The Token Ring Physical Ports Statistics screen (Monitor...Physical) now displays Ring State before Ring Status.

- The following new Ring Status values have been added:

  — Inserted

- — Recovery

- — Single Station on Ring

- — Auto Remove Error

- — Transmitting Beacon

- — Soft Error

- — Hard Error

- — Did Not Complete

- The System Overview (Token Ring and FDDI) screens (Monitor...System) now display Ring State instead of Ring Status.

- The System Information menu (Configure...System...Display) now displays the part number as PCA-00XX-xx instead of MOD-00XX-xx.

- In 16-port systems, the ports are numbered left to right from 1 to 8, beginning with the bottom board.

- The manual does not discuss the Unknown setting that is available when you are configuring ring speed for a port. Valid ring speed options are 4 Mbps, 16 Mbps and Unknown (Auto config). The Unknown option detects the current ring speed and inserts the port at that speed. If the port is the first to insert into a ring, it inserts at the last speed detected, or at 16 Mbps if no speed was previously detected. (DDTs no. CSCdi81278)

- All changes made to configuration parameters in the Catalyst 1800 switch take effect immediately, **except** changes to

  - — Max Frame Size

  - — All Serial Port configuration

  Before changes to these parameters can take effect, you must reboot the switch using the **System Reboot** command.

- Token Ring ports initialize in parallel. At system boot-up, each port displays diagnostic messages regarding Ring Status. *Unless you experience problems, disregard these messages.*

- MAC addresses are aged based on the configurable aging timer in the Bridge Configuration menu (Configure...Bridge...MAC Address). Addresses age between one and two times the aging interval. Therefore, if you are using the default interval of 5 minutes, the actual intervals you see are between 5 and 10 minutes.

- When you are adding or removing switch cards, the enclosure must be powered down.

- A Catalyst 1800 8TR or 4TR+FDDI module must occupy the bottom slot in the chassis. Only one 4TR+FDDI module is currently supported in a chassis. An 8TR module can be added in the top slot.

- When you are changing your hardware configuration by moving or swapping switching cards between slots or between chassis, you should reset the configuration database using the **Reset** command (System...Reset) and enter the new configuration following the automatic reboot that accompanies the **Reset** command.

Modifications

This section describes recent changes to the Catalyst 1800 hardware and software.

Hardware Modification

Under certain conditions, the FDDI console gets locked in a state where it streams characters continuously to the console port. The problem occurs only when the console port is connected and you enter a command. When the problem occurs, the switch continues to operate at slightly reduced performance, but it does not respond to console commands. This has occurred only in the manufacturing environment; it has not been reported in the field. The problem has been corrected with new PALs.

Revision numbers for boards in which the problem has been corrected are listed in Table 2. You can check a board's hardware revision information at the console by entering **con sys display** to display the System Information menu. (DDTs no. CSCdi90452)

Table 2   Board Revision Numbers

Module	Part Number	Revision Number
TR8	2208-01	B0 or later
	2208-02	A0 or later
FDDI	2210-01	C0 or later
	2210-02	A0 or later

Modifications to TRX.2.2.1 and FDU.2.2.1

The TRX.2.2.1/FDU.2.2.1 release includes the following changes from the previous release:

- Only one Telnet or console session at a time is permitted in this release. Multiple sessions can be opened; however, the command line input is shared among all active sessions. Quitting a Telnet session does not drop the Telnet connection; rather, it returns you to the password screen. (DDTs no. CSCdi74629)

- After configuring a SPAN monitoring port, do not reconfigure the ring number of the SPAN or SPAN monitoring ports. If you need to modify the ring number, first turn off SPAN monitoring, reconfigure the SPAN port's ring number, and then re-enable the SPAN function for those same ports. (DDTs no. CSCdi77316)

- You cannot access Best Path configuration (Configure... Logical...) with SNMP. (DDTs no. CSCdi74739)

- The System...Clear...MAC command may not clear all MAC addresses in the MAC Address Database on initial invocation. In certain circumstances, the command must be issued twice. When this command is issued, follow up with Monitor...MAC...0 to ensure that the addresses have been cleared. (DDTs no. CSCdj09760)

- Network management access to the FDDI information in the Catalyst 1800 does not comply with standards in all cases. These issues are being addressed and will be resolved in the next release of the software. (DDTs no. CSCdj13646)

- The IP Address table available from MIB-II does not reflect multiple IP addresses set in the switch. The full range of configured IP addresses is available from the proprietary MIB objects in the switch. (DDTs no. CSCdi74647)

- When you are viewing the Bridge Port Pair Table from RFC 1525, if all 13 ports of a 13-port system have unique ring numbers, the last pairing (port 12 to port 13) is not accessible through use of an SNMP Get-Next. This port pair is viewable by means of a Get, however. (DDTs no. CSCdi77326)

- If you modify IP parameters using the Catalyst 1800 enterprise nnCoInterface, the agent modifies the IP addresses but does not return a response, which may be reported as an error at the network management client interface. However, the IP address information is correctly updated. (DDTs no. CSCdi78317)

- When you are accessing FDDI table entries through SNMP, the SMTIndex value is missing from the object ID. (DDTs no. CSCdi80550)

- Some FDDI SMT frames were formed incorrectly. (Four bytes were incorrectly added to the beginning of the SMT information, and four bytes were incorrectly removed from the end of the SMT information.) (DDTs no. CSCdi80760)

- The Configure...STP...Seg#...Display command displays only 14 segments of information. If you are using a 16-port Catalyst 1800 and all segments have unique ring numbers, you can view only the first 14 segments from this screen. (DDTs no. CSCdi84591)

- The Catalyst 1800 incorrectly forwards an odd size RIF found in an SRF frame if the RIF length is 7, 9, 11, 13, 15, or 17. (DDTS no. CSCdi85757)

- The following objects are returned incorrectly from SMT: fddiSMTTrace-MaxExpiration, fddiMACOperationGrp, fddiMACT-Req, fddiMACT-Neg, fddiMACT-Max, and fddiMACTvxValue. (DDTs no. CSCdi88190)

- The following problems exist for these FDDI SNMP objects:

  fddimibSMTStationId: SNMP Object Value is not in canonical form.

  fddimibSMTTimeStamp: SNMP Object Value does not correspond to the SMT Parameter Value.

  fddimibSMTTransitionTimeStamp: SNMP Object Value does not correspond to the SMT Parameter Value.

  fddimibMACUpstreamNbr: SNMP Object Value is not in canonical form.

  fddimibMACDownstreamNbr: SNMP Object Value is not in canonical form.

  fddimibMACOldUpstreamNbr: SNMP Object Value is not in canonical form.

  fddimibMACOldDownstreamNbr: SNMP Object Value is not in canonical form.

  fddiMACSMTAddress: SNMP Object Value is not in canonical form.

  fddimibMACTReq: SNMP Object Value does not correspond to the SMT Parameter Value.

  fddimibMACNegT: SNMP Object Value does not correspond to the SMT Parameter Value.

  fddimibMACTMax: SNMP Object Value does not correspond to the SMT Parameter Value.

  fddimibMACTvxValue: SNMP Object Value does not correspond to the SMT Parameter Value.

  fddimibPATHConfigTokenOrder: SNMP Object Value is out of range.

  fddimibPATHConfigResourceType: SNMP Object Value is out of range.

  fddimibPATHConfigCurrentPath: SNMP Object Value is out of range.

  fddimibPORTHardwarePresent: SNMP Object Value does not correspond to the SMT Parameter Value. (DDTs no. CSCdi88196)

- If you configure the console baud information on the lower card, the top card does not use that same configuration. Each card has a separate serial port configuration on the Catalyst 1800. (DDTs no. CSCdi74786)

- Configuring a port for auto-detected ring speeds may not allow the Catalyst 1800 to insert into 4 Mbps rings. To work around this issue, configure 4Mbps ports to specifically use 4Mbps as the ring speed. (DDTs no. CSCdj15278)

- When you are moving cable connections between ports on the Catalyst 1800, you must first disable the SPAN port functionality. You can disable SPAN functionality by issuing the command Configure...Port...Span...0...0. After the cable move is complete, you can re-enable SPAN to reflect the new configuration. If SPAN is not disabled during cable moves, and if the port being moved is one of the configured SPAN ports, that port and possibly the board on which the port is located may stop forwarding traffic. (DDTs no. CSCdj15359)

- When spanning tree and SPAN port functionality are used, enabling a SPAN port causes all ports on the Catalyst 1800 to transition to the Forwarding state. To work around this problem, always re-enable spanning tree after making a SPAN port configuration change (if STP was initially running). (DDTs no. CSCdj14225)

- An example in the description of the Port Security Calendar screen in Chapter 5 specifies an access time setting in 30-minute increments. However, this function of the switch permits only whole hour settings of 0 through 23. The example is incorrect. (CSCdi76501)

- Changes made to any of the physical port parameters (ring speed, active monitor participation, and so on) require that the port affected be disabled and re-enabled for the new settings to take effect. (DDTs no. CSCdi81281)

- Telnet sessions incorrectly truncate full screens of output. This can occur at the Monitor...MAC...0 screen and at the Monitor...System screen. The problem has been corrected in 2.2.1. (DDTs no. CSCdj12759)

- When you use CiscoView, the console baud rates of two boards cannot be changed separately, but when you use the CLI, they can be. From a standardization standpoint, it is suggested that you use either CiscoView or the CLI when configuring the product.

  From a MIB perspective, ideally with two boards, a table of console-related objects would be necessary to help in configuring each console separately. Currently, in the private MIB for the Catalyst 1800 device, the console group contains scalar variables for the console port; this makes it impossible to configure both the ports. (DDTs no. CSCdi86235)

- When you are clearing statistics, MAC addresses, or NetBIOS names from the Catalyst 1800, there is no acknowledgment confirming the action nor is there an escape clause once the command has been entered. (DDTs. no. CSCdi74808)

- If there is heavy traffic and a high-error rate on any single Catalyst 1800 Token Ring port, (basically a non-functioning ring), the port detecting errors may hang the TMS380 front-end component. This could cause other Token Ring ports on that same switch to hang. This has not been seen in the field, but did occur during error-stress loading testing in development. (DDTS no. CSCji10590)

- During a development test on 2.1.12, it was found that the use of a reboot/reset switch script and a 12-port Catalyst 1800 with Token Ring ports attached only to the top card could result in a red-light condition, requiring a power off/on to correct the situation. This occurs when you issue the system...reboot/reset...yes command several times back-to-back without waiting for all the ports on the upper board to insert into the ring. (DDTS. no. CSCdj11139)

- In a Catalyst 1800 network where the ports in the switch are configured for SR, moving PCs through the network can confuse the switches. This results in connectivity problems between the PCs directly and the switches and affects the traffic that flows through the switches. All the PC-to-PC or PC-to-server communications work fine. CSCdj16276

- When TFTP downloads the upper board in a two-board Catalyst 1800 system, the status message from the download is incorrectly concatenated and appears as follows:

```
TFTP download Completed Success fullyDetected.
```

  The print statement displays proper download messages after the TFTP download. (DDTS no. CSCdj06083)

- After the NetBIOS database is cleared, **m n** does not display the following message:

```
 no entries found in the netbios name database
```

  You can delete the entire database with a single command. If you repeat the command, the message is displayed. (DDTS no. CSCdi83178)

- When you are configuring a port type for a Token Ring port in a 12-port system, the options are SR, TB, SRT, and SRTB. However, the TB and SRTB settings apply only to the FDDI port in that 12-port system. For Token Ring ports, only the SR and SRT settings apply. (DDTS no. CSCdi75982)

- IP connectivity may fail when going across multiple switch/router hops in SR only environment. The Catalyst 1800 was not sending IP ARP Requests as explorers on SR only ports. (DDTs no. CSCdj33777)

- Under error traffic with RMON enabled, a system hang may be experienced. The system would include loss of client/server communication and, in certain circumstances, loss of console access. (DDTs no. CSCdj33790)

- RMON would accept an SNMP Object ID (OID) for a non-existent variable when setting RMON alarms in the Catalyst 1800. This could potentially cause the switch to hang on subsequent reboots. (DDTs no. CSCdj33968, CSCdj35987)

- ARE reduction performed by the Catalyst 1800 could cause a block when starting a client/server connection. ARE's are being incorrectly filtered if a switch is configured with a ring number on a disabled or de-inserted port and that ring number already appears in the ARE RIF received by another port on that switch. (DDTs no. CSCdj08120, CSCdj53703)

- Configuring a switch port with the ring number 0xfff could cause a loss in communication. This also causes SNMP access to the bridge port pairs to fail for ring number 0xfff. (DDTs no. CSCdj53571)

Modifications to TRX. 2.1.12 and FDU.2.1.12

The TRX.2.1.12/FDU.2.1.12 release includes the following changes from the previous release:

- The Catalyst 1800 FDDI module may stop forwarding multicast (including broadcast) frames after a broadcast storm on any port attached to the FDDI module. This happens when the FDDI module runs out of translation buffers and incorrectly frees an associated flood buffer in the process, eventually depleting the flood buffer pool. This condition also affects unknown unicast frames. To resolve this issue, reboot the switch. This issue was originally found in the 2.1.11.p9 release software and has been corrected in Release 2.1.11.p10 and later versions. (DDTs no. CSCdj00326)

- In spanning-tree topologies where a topology change takes place and does not immediately affect the Catalyst 1800 switch, the switch may take between 5 and 10 minutes (using default aging timers) to refresh its MAC address table learned at the port level. Sessions may fail in this interval of time until an aging event occurs. This problem has been corrected in the 2.1.12 release by the clearing of the port CAM MAC address table upon notification of a topology change from 802.1d spanning tree. (DDTs no. CSCdi85935)

- The Catalyst 1800 operational software and firmware images that are available for serial (console port) download do not check for proper board type prior to storing themselves in Flash. Conceivably, an incorrect image could be stored in Flash. As of Release 2.1.12, all serially downloaded Catalyst 1800 software and firmware images check the board type prior to storing themselves in Flash on that board. (DDTs no. CSCdi88402)

- In cases where the **reboot** command is issued repeatedly and the top card in a dual board chassis has not completed the initialization of all of its attached Token Ring ports, the red Failure LED on the bottom board may light. This is caused by the delayed boot on the top card running power-on self test while the bottom module is already well under way in its boot process. This has been corrected in 2.1.12 and later releases by a synchronization of the boards prior to soft reboot. (DDTs no. CSCdi88885)

- The FDDI port does not send directed beacons. If an upstream neighbor fails, directed beacons are used to inform that station to take itself off the ring. This problem has been fixed in 2.1.12 and later releases. (DDTS no. CSCdi80746)

- The Catalyst 1800 always passes the link confidence test (LCT), even when many errors are passed to it. As a result, poor links are being used. This has been corrected in 2.1.12 and later releases. (DDTs no. CSCdi80751)

- During ring insertion, the FDDI A port may fail to bring up the connection. Subsequent attempts succeed. This problem has been fixed in 2.1.12 and later releases. (DDTs no. CSCdi80755)

- The FDDI SMT trace function provides a recovery mechanism for stuck beacon conditions on the FDDI ring. If the trace function is initiated by another station on the FDDI ring, the Catalyst 1800's FDDI port takes the proper action but will not re-insert into the ring. The switch must be rebooted in order for the FDDI port to be re-inserted into the ring. This problem has been fixed in 2.1.12 and later releases. (DDTs no. CSCdi80763)

- When the Catalyst 1800 receives a PMF-Get Request, it sends back a PMF-Get Response that is larger than the maximum FDDI frame size. This prevents the management station from correctly receiving the information it is looking for. A frame this size on the ring could cause other stations to have problems as well. This problem has been fixed in 2.1.12 and later releases. (DDTs no. CSCdi80794)

- FDDI Station Management (SMT) receives only frames with a broadcast destination MAC address. This causes PMF-SET requests to fail within SMT when they are directed to the MAC address associated with the FDDI port. This problem has been fixed in 2.1.12 and later releases. (DDTs no. CSCdi80800)

- During a connection attempt, the FDDI port is occasionally transitioning improperly through the PCM state machine. This problem has been fixed in 2.1.12 and later releases. (DDTs no. CSCdi80823)

- After a user successfully enters the password from a Telnet session to the Catalyst 1800 switch, typing the command recall sequence (Ctrl-P) displays the password just entered. This is an issue if you are attempting to ensure the security of access to the switch console. This issue has been resolved in 2.1.12 and later releases. (DDTs no. CSCdi83317)

- The translation of BOOTP frames traversing Token Ring to/from FDDI is not handled properly. The chaddr field of the BOOTP frame is not bit-swapped when the frames traverse these media types. This may affect BOOTP operation when TR/FDDI translation is used in the switch. The Catalyst 1800 switch did not interoperate with the Cisco 7000 router when the switch was transmitting BOOTP frames. This problem has been corrected in 2.1.11.p1 and later releases. (DDTs no. CSCdi84287)

- The Catalyst 1800 may hang if frames larger than the configured Max Frame Size are used on rings attached to the switch. The Token Ring interface on the switch attempts to store up to 32 bytes more than is provided by the buffer, thus overwriting the first 32 bytes of the subsequent buffer. The system hangs if that subsequent buffer is being switched at the same time the overwrite is occurring. This may occur on 8-, 12-, and 16-port systems. This problem has been corrected in 2.1.11.p11 and later releases. (DDTs no. CSCdi84466)

- The top board of a 12- or 16-port Catalyst 1800 system may hang with RMON enabled for any of the ports on the top board. The failure is not consistent, however; Token Ring MAC error statistics monitored by the top board may write to an area of memory that is in use by other software modules. This may cause the top board to hang. This issue is resolved in 2.1.11.p9 and later releases. (DDTs no. CSCdi85016)

- When you are enabling/disabling a Token Ring port, the console screen incorrectly clears several times but does not refresh correctly. Press Enter or Escape to return to the main menu of the console. This issue is resolved in 2.1.12 and later releases. (DDTs no. CSCdi74822)

- When you enable all ports using the Configure...Physical...0...State...Enable command, the screen is cleared repeatedly and a clear screen is displayed with the cursor positioned halfway down the screen. Press Enter or Escape to repaint the screen. This issue is resolved in 2.1.12 and later releases. (DDTs no. CSCdi80454)

- Lem_Ct, a counter that counts link error events, does not increment consistently. This could give false information to a network manager regarding the quality of links and could cause bad links to stay in service. This problem has been corrected in 2.1.12 and later releases. (DDTs no. CSCdi80743)

- The minimum frame size that can be configured in a 12-port system is 4865. This is due to the FDDI MTU of 4500 (4472 payload) and the inability to configure the FDDI port to a smaller value due to hardware limitations. This issue is resolved in 2.1.12 and later releases. (DDTs no. CSCdi74703)

- The FDDI SMT Link Confidence Test (LCT) tests the validity of the link. This test runs under four different time durations: 50 milliseconds, 500 milliseconds, 5 seconds and 50 seconds. Only the 50 millisecond duration is currently supported. This issue is resolved in 2.1.12 and later releases. (DDTs no. CSCdi80748)

- The FDDI does not detect itself as a duplicate MAC address. This has been fixed in 2.1.12 and later releases. (DDTs no. CSCdi80764)

- The procedure for serially downloading images to the Catalyst 1800 is to first download (**do**) the file, and then type **go** to write the file to Flash for subsequent reboots. Typing the **go** command a second time may cause the system to incorrectly write to Flash. This may cause the board to fail during boot. If this scenario occurs, contact customer service to reload the board. The problem has been corrected in 2.1.12 and later releases. (DDTs no. CSCdj10589)

- If the IP address information has been updated since the last reboot of the Catalyst 1800 and a Telnet session is established over one of the Token Ring ports, erroneous debug messages may be sent to the console attached to the local serial port. This has been corrected in 2.1.12. (DDTs no. CSCdj10492)

- The hostTable is only accessible through the use of seven instances, which includes the hostIndex, hostAddress. Access using eight instances, including hostIndex, 6, hostAddress, is not supported. (DDTs no. CSCdi77314)

- The Source Routing Output statistics are not reported by the Catalyst 1800 RMON agent. Therefore, when you view these statistics from Traffic Director, the SR-OUT-STATS in the SR Monitor displays 0. (DDTs no. CSCdi83483)

- The ring number displayed from the SR Monitor SR-STATS view from Traffic Director may be incorrect if the ring number has been changed since the last reboot of the Catalyst 1800. (DDTs no. CSCdi83486)

- When the FDDI port is configured in SRTB mode, it converts TB frames received on the FDDI port to SR frames on the outgoing Token Ring port if the destination station communicates as an SR station. With spanning tree enabled and the destination SR station located on an STP "Blocked" port, the frame is blocked by the switch, and a session may not be permitted to open. (DDTs no. CSCdj12770)

- When you are configuring the SPAN port function on the Catalyst 1800, the use of a 0 port number for the source port or destination port indicates that SPAN should be disabled. The setting the destination to 0 is not detected as a disable event. (DDTs no. CSCdj12897)

- Two-byte, outbound filters were not blocking explorer traffic in version 2.1.10. (Inbound filters work fine, as do outbound filters applied to non-explorer traffic.) This has been corrected in 2.1.11.p12 and later releases. (DDTs no. CSCdj12888)

Modifications to TRX.2.1.11 and FDU.2.1.11

The TRX.2.1.11/FDU.2.1.11 release includes the following changes from the previous release:

- With spanning tree bridging enabled, specifically routed frames (SRFs) were incorrectly dropped if they were destined for the same ring as the one the SRFs arrived on. This has been corrected in this release. (DDTs no. CSCdi80477)

- Dynamic configuration of segment numbers (ring numbers) could possibly create an incorrect forwarding path through the switch. This would occur if more than two new segment numbers were created among the ports found on the upper module in a 2-module system. This has been corrected in this release. (DDTs no. CSCdi78655)

- Setting the FDDI port to SR or SRT mode via SNMP was not permitted in previous releases. This capability has been added to this release. (DDTs no. CSCdi80481)

- Quitting a Telnet session did not cause the Telnet session to disconnect, but rather returned you back to the Catalyst 1800 password prompt. This has been changed to cause the Telnet session to terminate if the **quit** command is executed from a Telnet session. (DDTs no. CSCdi74709)

- The dot1dBasePortCircuit SNMP variable returned incorrect segment (ring number) information when more than nine logical segments were configured. This has been corrected in this release. (DDTs no. CSCdi77315)

- The hardware-type field of BOOTP/DHCP traffic was not being translated between Token Ring and FDDI segments. This has been changed so that all BOOTP/DHCP traffic traversing the switch encodes a type 1 hardware-type on FDDI and a type 6 hardware-type on Token Ring. (DDTs no. CSCdi80488)

Modifications to TRX.2.1.10 and FDU.2.1.10

The TRX.2.1.10/FDU2.1.10 release included the following changes from the previous release:

- RMON alarms are now sent with an enterprise OID of "RMON." Previously, some RMON clients may not have accepted Catalyst 1800-generated RMON alarm traps. (DDTs no. CSCdi74642)

- BPDU frames were not being sent on all ports participating in spanning tree. This has been corrected in this release. (DDTs no. CSCdi74754, no. CSCdi74713)

- SNMP access to large MAC and NetBIOS databases would time out. This has been corrected in this release. (DDTs no. CSCdi74715, no. CSCdi74732)

- Client-to-server connections were sometimes blocked when Token Ring and FDDI redundant configurations were run.This has been corrected in this release. (DDTs no. CSCdi74778)

- Ports configured to participate as SPAN ports would not take effect if the output SPAN port was located in the upper module of a 2-module system (12-port, 16-port configurations). This has been corrected in this release. (DDTs no. CSCdi74718)

- NetBIOS names were defined as octet strings via the Catalyst 1800 proprietary MIB. These have been changed to display strings for friendlier viewing of those names. (DDTs no. CSCdi74727)

- IP ARPs were being incorrectly flooded to multiple ports with spanning tree enabled. This has been corrected in this release. (DDTs no. CSCdi74760)

- Removing a cable from port 6, 7, or 8 in a 12-port configuration under heavy load would sometimes cause the top card in the switch to stop forwarding frames. This has been corrected in this release. (DDTs no. CSCdi76365)

- Telnet sessions were being refused following a series of network reconfiguration (due to spanning tree changes or cable moves/adds/changes). Telnet now supports a default 5-minute timeout for recovery from such events. (DDTs no. CSCdi77138)

- Changing the ring number of a port with spanning tree enabled left all ports on the top card of a two-card switch in Learning state (in which forwarding of frames is blocked). This has been corrected in this release. (DDTs no. CSCdi77142)

Cisco Connection Online

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- Telnet: cco.cisco.com

- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

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This document is to be used in conjunction with the *Catalyst 1800 Token Ring Switch User Guide*.