



Text Part Number: OL-3965-01 Rev. A0

Catalyst 3900 Series Token Ring Switch Release 3.0(6) Release Note

May 21, 1999

This document describes the problems fixed in Catalyst 3900 switch main image Release 3.0(6) and in ATM firmware image Release 1.2(4). It also lists the known problems for these releases and contains information about the Catalyst 3900 and Catalyst 3920 Token Ring switches that was not included in the user guides. This document is available on the Cisco Connection Documentation CD-ROM or in print.

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Problems Fixed in This Release

This section lists problems that have been resolved in Release 3.0(6) of the Catalyst 3900 series main image and Release 1.2(4) of the ATM firmware image.

Problems Fixed in the Catalyst 3900 Series Main Image Release 3.0(6)

The following is a list of problems found in the Catalyst 3900 series main image that have been resolved in Release 3.0(6).

Problem Identifier	Problem Description
CSCdj37742	Under rare circumstances (for example, when a switch is connected to a ring for which a lot of errors are being reported), a “QTP_Task():CmdDone not expected here” warning message might display on the switch console. After this message displays, some ports might not be operational.
CSCdk07977	Under rare circumstances, a “QTP_FSM: QMAC Not Responding - Resetting ports” warning message might display on the switch console. After this message displays, some ports might not be operational.
CSCdk20304	A Catalyst 3900 switch running software Release 2.1(3) with an ATM uplink running ATM firmware Release 1.2(3) might generate an “AddressLearning: Invalid ATM message” error message and reload because another ATM device is generating invalid frames that are too short.
CSCdk88188	In a stack configuration in which a TokenChannel is configured, frames forwarded across the primary ports of the TokenChannel are correctly forwarded while the frames forwarded across the secondary ports might be dropped.
CSCdk89861	In a stack configuration in which a TokenChannel has been configured, address table entries for addresses learned via a TokenChannel port that is located on another switch in the stack are not correctly distributed across the TokenChannel. More addresses are assigned to the primary port in the TokenChannel instead of being equally distributed across all ports in the TokenChannel.
CSCdm00569	In some circumstances, a port state change causes the logical port between a TrCRF and TrBRF to transition from forwarding to blocking temporarily. When this condition occurs, stations on the ports in that TrCRF are temporarily unable to communicate with stations on other TrCRFs. To address this situation, an additional STP Mode value has been added. For more information, see the “New TrCRF Spanning Tree Mode” section on page 5.
CSCdm01023	Memory allocation problems are occurring in the software used to collect RMON statistics for ISL ports. This problem might result in the Catalyst 3900 switch rebooting after an out of memory error message displays.
CSCdm04168	When the Token Ring Port Configuration panel indicates that a port is auto-disabled, enabling the port and exiting the panel does not enable the port. To successfully reenab a port, one must administratively disable the port on the Token Ring Port Configuration panel, exit the panel, and then return and administratively enable the port.

Problem Identifier	Problem Description
CSCdm09647	In a configuration in which there is a Catalyst 3900 switch connected to a Catalyst 5000 series switch via a copper ISL uplink, adding or removing a port from a VLAN might cause the ISL uplink to exit and then re-enter trunking mode.
CSCdm13367	In a configuration in which a TrBRF spans three switches (switch A, B, and C) connected via ISL uplinks and there are source-route transparent TrCRFs associated with the TrBRF on each of the switches, an STP running on the TrBRF might cause the stations on the TrCRF on an end switch (A or C) to lose connectivity with the stations on the TrCRF on the other end switch if there are no ports inserted into the TrCRF on switch B and the traffic between the ports is non-source-routed.
CSCdm13976	In a Catalyst 3900 switch in which parallel ISL uplinks are configured, creating a TrBRF with just a single TrCRF causes the TrBRF to not run STP even if the TrBRF has been configured to do so. This problem might cause a spanning tree loop to occur.
CSCdm15406	An incoming non-source-route ISL frame with a TrBRF destination might be incorrectly forwarded to a source-route bridged (SRB) TrCRF in that TrBRF. This problem might result in the loss of connectivity to stations in other TrCRFs because the end stations in the SRB TrCRF might use the non-source-route frame to update their RIF cache.
CSCdm16074	When configuring an SNMP trap receiver via a Telnet session, if the session terminates abnormally, the Catalyst 3900 switch might stop responding to console, ping, and Telnet requests. However, the switch continues to pass traffic normally.
CSCdm18261	In a configuration in which two TrBRFs are configured in parallel on the same Catalyst 3900 switch, spanning tree might incorrectly block ports. If a port becomes blocked, network connectivity via one of the TrBRFs is lost.
CSCcm19901	In a redundant ISL network topology with VTP V2 disabled, spanning tree might not properly converge and a network loop could form. This problem only occurs when there is a TrBRF with only one TrCRF configured on one of the switches.
CSCdm23046	Under rare circumstances, initiating a TFTP file upload or download from a Telnet session can freeze the IP stack and Telnet session if the file transfer takes longer than one minute. No activity occurring on the Telnet session and the Catalyst 3900 not responding to IP frames are the results of this problem. Also, attempts to ping or view the Cisco Discovery Protocol (CDP) Neighbor Display panel from the serial console also freezes the serial console.
CSCdm26555	Assigning a Token Ring port to a new TrCRF on a Catalyst 3900 on which an ISL module is installed and the ISL ports are connected and under a heavy traffic load might temporarily freeze the switch console and service.

Problem Identifier	Problem Description
CSCdm29881	The Domain Password field on the VTP Administrative Configuration panel does not properly prevent or allow VTP updates. When you configure a domain password, the password is saved but not properly used. This problem causes the switch to only accept configurations from other Catalyst 3900 switches or other devices on which no domain password is configured.
CSCdm30366	Memory allocation problems eventually occur when the ISL Error Statistics panel is left displayed on the console for long periods of time. This problem occurs because the Error Statistics panel automatically and continuously updates (refreshes) the displayed information.
CSCdm31937	In a Catalyst 3900 in which an ATM uplink has been configured, the IP address of the management VLAN (configured via the SNMP Configuration panel) is not sent in CDP frames across the ATM uplink, but instead, the IP address of the VLAN associated with the ELAN over which the CDP frame is sent. This problem could prevent management stations from communicating with the Catalyst 3900.

Problems Fixed in the ATM Firmware Image Release 1.2(4)

The following is a list of problems found in the Catalyst 3900 ATM firmware image that have been resolved in the Release 1.2(4).

Problem Identifier	Problem Description
CSCdk13983	Module timers run too fast. As a result, timeout periods are shorter than they are actually configured for.
CSCdk23442	MAC addresses and route descriptors are aged out regardless of their respective usage. As a result, a Data Direct VCC might be torn down and reestablished.

Known Problems

This section lists the currently known problems in Release 3.0(6).

Problem: VTP Server does not change TrCRF Spanning-Tree Protocol (STP) information on the VTP Client (CSCdj79664)

Problem Description: With VTP activated, TrCRF spanning-tree modes may not be consistent between the Catalyst 5000 and the Catalyst 3900. When viewing the spanning-tree information for a specific TrCRF on the Catalyst 5000 and then looking at it on a Catalyst 3900, the spanning-tree modes do not match.

Recommended Action: Manually configure the TrCRF spanning-tree mode for TrCRFs in the Catalyst 3900 to match the configuration in the Catalyst 5000.

Problem: TrBRF spanning tree might not properly converge when the root bridge of the TrBRF is located in a TrCRF on another switch in the stack (CSCdk54804)

Problem Description: In a stack configuration in which spanning tree is running on a TrBRF and the root bridge of that TrBRF is on a non-ISL port located on another switch in the stack, in very rare instances, the switch that is not the switch in which the root port is located might not correctly converge the TrBRF spanning tree because it does not correctly discover the root TrCRF.

Recommended Action: Reload the entire stack of switches or reload each switch for which the spanning tree has incorrectly converged.

New Feature in This Release

The following new feature has been added to the Catalyst 3900 Token Ring software Release 3.0(6).

New TrCRF Spanning Tree Mode

With Catalyst 3900 Token Ring software Release 3.0(6) and later, an additional TrCRF STP mode is available. When configuring the STP mode of a TrCRF via the Spanning Tree for a TrCRF panel, you can now select **auto-fast** mode in addition to **auto**, **blocked**, or **forwarding** mode.

When the STP mode of a TrCRF is auto (the default), a Token Ring port state change (coming up or going down) causes the TrCRF-to-TrBRF link to cycle through spanning tree states. Until the spanning tree state returns to forwarding, stations in the TrCRF lose connectivity with stations in other TrCRFs associated with the same TrBRF.

However, when the TrCRF STP mode is auto-fast, Token Ring port state changes do not impact the spanning tree state of the TrCRF-to-TrBRF link unless the port happens to be the first active port in the TrCRF.

Amendments to the Documentation

This section contains information that was not included in the Catalyst 3900 or Catalyst 3920 User Guides. The headings in this section correspond with the applicable section titles in the documentation.

Bridging Modes

The Catalyst 3900 and 3920 Token Ring switches support source-route bridging (SRB), source-route transparent bridging (SRT), and source-route switching. You can enable either SRB or SRT for the logical connections between the TrCRF and the TrBRF. Source-route switching is used for frame forwarding within the TrCRF and is always enabled.

RMON Support

The description of the Token Ring Ring Station Group is incorrect. This section should read as follows:

The Catalyst 3900 series Token Ring switches support the ringStationControlTable portion of the Token Ring Ring Station Group. This support allows a Catalyst 3900 series switch to gather segment information from each ring segment to which it is attached. This segment information includes Ring State, Beacon Sender, Beacon NAUN, and Active Monitor MAC Address, as well as Station Order Changes.

Interconnecting Catalyst 3900 Switches

If you plan to interconnect your Catalyst 3900 with a Catalyst 5000, your Catalyst 5000 should have Supervisor Card revision 2, or later, with NMP version 3.0(201), or later. Also, because VTP pruning is currently not supported by the Catalyst 3900, if you extend a TrBRF from a Catalyst 3900 to a Catalyst 5000 that is using VTP pruning, you must set the TrBRF to ineligible on the Catalyst 5000.

Configuring Basic Switch and Stack Parameters

CiscoView shows the burned-in MAC address and the configured locally administered address in non-canonical format. The Switch Configuration panel allows you to choose whether the MAC addresses displayed on the console panels are in canonical or non-canonical format. The default is non-canonical.

Viewing Module Information

The Hw Rev column on the Module Information panel has been updated to reflect the revision numbers of the module and the associated ASICs. For the base switch and the Token Ring fiber and copper expansion modules, the hardware revision is now displayed in the format *x.y.z*, where:

- *x* indicates the revision level of the module
- *y* indicates the revision level of the switching ASIC
- *z* indicates the revision level of the MAC Processor ASIC

Configuring VTP Parameters

Changing the Local Mode field on the VTP Administrative Configuration panel from Client to Transparent or Server generates the following message when the number of defined VLANs is greater than the amount that can be stored in NVRAM:

```
Mode must be Client. There are too many VLANs to store on local device.
```

Performing the same procedure via an SNMP manager generates the following message:

```
WRONG_VALUE_ERROR.
```

Adding or Changing TrBRF VLAN Parameters

Modifications have been made to the VLAN Parameter Configuration panel for a TrBRF that prevent you from configuring an MTU size larger than 4472 for a TrBRF that contains an ATM port. This modification has been made because the Catalyst 3900 ATM module does not support MTUs greater than 4472.

With the Catalyst 3900 main image Release 3.0(3) or later, specifying an MTU greater than 4472 for a TrBRF that contains an ATM port will result in the ATM port being removed from the TrBRF and the following message being displayed:

```
ATM Port removed from TrBRF since BRF MTU > 4K
port=25, crf=1003, brf=1005, vlanmtu=8144
```

Note Upgrading the Catalyst 3900 main image to Release 3.0(3) or later on a switch on which an MTU greater than 4472 was configured for a TrBRF that contains an ATM port results in the same action.

Adding or Changing TrCRF VLAN Parameters

As stated in the “Adding or Changing TrCRF VLAN Parameters” section of the User Guide, to enable ring number learning, the Local Mode (on the VTP Administrative Configuration panel) must be set to Transparent (which is the default) and the ring number must be set to auto (which is the default). If you have set the local mode to Client or Server, you cannot set the ring number to auto.

With Release 3.0(3) or later of the Catalyst 3900 main image, if you have previously set the Local Mode of the default TrCRF (1003) to Transparent and the ring number to auto, you can now change the Local Mode while ring number learning is in progress. If the default TrCRF is the only TrCRF for which the ring number is set to auto, the ring number will automatically be set to the learned ring number or, if the ring number has not been learned, it will be set to 0xCCC.

Displaying VLAN Port Assignment

Attempting to assign a port to a TrCRF to which remote ports are already assigned generates the following message:

```
Error - TrCRF has remote ports assigned
```

Attempting the same procedure via an SNMP manager generates the following message:

```
WRONG_VALUE_ERROR
```

Configuring SNMP Parameters

An additional option, Management VLAN, has been added to the SNMP Configuration panel. This option enables you to select the VLAN that has the IP address you want to use for the following:

- To be passed to ATM switches via Interim Local Management (ILMI) protocol implementation as the IP address of the management VLAN (for switch or stack configurations that include ATM modules)
- To be used in Cisco Discovery Protocol (CDP) messages

CDP is used with Cisco IOS software to establish communication between different models of Cisco equipment (for example between a Catalyst 3000 and Catalyst 5000 series switch). Formerly, the Catalyst 3900 sent the IP address of the default TrBRF (1005) in the CDP messages

as the address to which it could receive SNMP messages. However, sometimes the default TrBRF was not configured to receive traffic. In this situation an SNMP manager such as CiscoWorks for Switched Internetworks reads the CDP cache of an adjacent Catalyst 5000 and does not know how to manage the Catalyst 3900. Using the Management VLAN option on the SNMP Configuration panel, you can specify the TrBRF VLAN that has the IP address you want to be used in CDP message.

Configuring Port Parameters

When configuring a port to operate in adaptive cut-through, you can specify a threshold for errored frames. If this threshold is exceeded, the port will transition from cut-through to store-and-forward mode. Errored frames include frames with CRC errors, aborted frames, and frames that are considered too short.

Configuring LEC Parameters

The ATM LEC Setup panel has been modified to indicate that the Catalyst 3900 ATM module supports MTUs up to 4472.

In the User Guide, the possible values listed for the MTU field are 1500, 4472, 8144, and 17800. With this release of the Catalyst 3900 main image, the possible values for the MTU field on the ATM LEC Setup panel are 1500 and 4472.

Configuring the ISL Port

The Port Configuration panel for an ISL port has been updated to reflect the operation mode of the port. This field, labeled Operation Mode, is display only and the only possible value currently is FDX trunking.

Filtering Data Based on Protocol

You can now define filters based on the DSAP values 0x00 and 0xAA. If a DASP of 0xAA is included in a protocol filter, all SNAP frames will be filtered regardless of any EtherType currently specified. If you attempt to define a filter based on both an EtherType and the DSAP value 0xAA the following message is generated:

```
Warning - Ethertype filtering will be ignored while filtering with DSAP 0xAA.
```

For a list of additional SAP values on which you can base filters, refer to the “Service Access Points” section of the “Codes and IDs” appendix of the User Guide.

Additional changes to the Protocol Class Assignment panel include the following:

- Hexadecimal values that formerly displayed as “a” through “f” now display as “A” through “F”.
- Ethertype values for classes 9 through 15 that formerly displayed as “None” now do not display at all because EtherType is not valid for any of those classes.

Monitoring Port Traffic

As the required hardware has not become available in the marketplace to support passive monitoring of network traffic, the Catalyst 3900 no longer allows the configuration of passive SPAN.

As mentioned in the User Guide, you must place your SPAN port in a separate TrCRF and TrBRF that contains no other ports. If you plan to use SPAN, we recommend that you create a TrCRF and TrBRF upon initial configuration specifically for this purpose. It is also a good idea to leave a port on the switch assigned to this TrCRF for the purposes of future SPAN use.

Limiting Scope and Access

The Filters & Port Security panel has been modified to make it easier to configure MAC address and protocol filters. As a result a new panel, the MAC Address Filters panel, has been added and the new options available on the Filters & Port Security panel are:

- **MAC Address Filters**—Select this option to configure MAC address filters, block communication at selected ports, or to view currently defined filters.
- **Protocol Filters**—Select this option to define protocol classes and to define the behavior attributes for a protocol filter.

The following options that were displayed on the Filter & Port Security panel are now available on the MAC Address Filters panel:

- **Configure Filters**—Select this option to configure MAC address filters.
- **Configure Port Security Mode**—Select this option to block communication at selected ports.
- **View Port Filters**—Select this option to view the currently defined filters.

For more information about these options, refer to the “Limiting Scope and Access” section of the User Guide.

Viewing General Port Statistics

Two fields on the General Statistics panel for a port have been modified to clarify the information the counters are reflecting. The Frames Filtered - Addr and Frames Filtered DSAP fields in the left-hand column have been changed to the following:

- **Frames Filtered - MAC Addr**—Number of frames filtered by the MAC address filters.
- **Frames Filtered - Protocol**—Number of frames filtered by the protocol filters.

Viewing Frame Forwarding Statistics

Two fields on the Frame Forwarding Statistics panel for an ATM port have been modified to clarify the information the counters are reflecting. The Frames Filtered - Addr and Frames Filtered - DSAP fields in the left-hand column have been changed to the following:

- **Frames Filtered - MAC**—Number of frames filtered by the MAC address filters.
- **Frames Filtered - Prot**—Number of frames filtered by the protocol filters.

Viewing Spanning-Tree Information for a VLAN

Fields identifying the Spanning-Tree Protocol running at the TrBRF and TrCRF levels have been added to the Current Spanning Tree Information panel.

When viewing the Spanning-Tree parameters for a TrBRF, the protocol running per TrCRF is identified in the Ptbl column. Possible values are IBM, IEEE, or blank.

When viewing the Spanning-Tree parameters for a TrCRF, the protocol running is identified in the Protocol field. Possible values for the Protocol field are Cisco and IEEE.

Availability of Catalyst 3900 Software Upgrades on CCO

When changes are made to the Catalyst 3900 software, the new image is posted to CCO. You can then obtain a copy of the image and download it to your switch.

Obtaining Service and Support

For service and support for a product purchased from a reseller, contact the reseller. Resellers offer a wide variety of Cisco service and support programs, which are described in the section “Service and Support” in the information packet that shipped with your product.

Note If you purchased your product from a reseller, you can access Cisco Connection Online (CCO) as a guest. CCO is Cisco Systems’ primary, real-time support channel. Your reseller offers programs that include direct access to CCO’s services.

For service and support for a product purchased directly from Cisco, use CCO.

Cisco Connection Online

Cisco Connection Online (CCO) is Cisco Systems’ primary, real-time support channel. Maintenance customers and partners can self-register on CCO to obtain additional information and services.

Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco’s customers and business partners. CCO services include product information, product documentation, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously: a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, and Internet e-mail, and it is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CCO in the following ways:

- WWW: <http://www.cisco.com>
- WWW: <http://www-europe.cisco.com>
- WWW: <http://www-china.cisco.com>

- 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.

For a copy of CCO's Frequently Asked Questions (FAQ), contact cco-help@cisco.com. For additional information, contact cco-team@cisco.com.

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This document is to be used in conjunction with the *Catalyst 3900 Token Ring Switch User Guide* and the *Catalyst 3920 Token Ring Switch User Guide* publications.

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