



C I S C O S Y S T E M S

Doc. No. 78-1367-10 Rev. B0

# Catalyst 1200 Series Switch Release Note for Release 4.1

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**Supplement to DOC-CATALYSTUG5 (Document Number 78-1264-05)**  
**Boot Firmware Version 1.1**  
**Data Movement Processor (DMP) Flashcode Version 4.1**  
**Network Management Processor (NMP) Flashcode Version 4.1**

This release note describes the features and modifications of the Catalyst 1200 series switch for software release 4.1 and also contains applicable caveats and workarounds. Refer to previous release notes for information about previous releases. Refer to the *Catalyst Series Workgroup Switch User Guide* for detailed information about the Catalyst Series Workgroup Switch.

## Documentation

The *Catalyst 1200 Series Switch User Guide* and all related release notes are available for the Catalyst 1200 series switch in printed form and in electronic form on UniverCD.

## Product Overview

The Catalyst Series Workgroup Switch is an Ethernet-to-Copper Distributed Data Interface/Fiber Distributed Data Interface (CDDI/FDDI) switch that provides high-speed transparent bridging between Ethernets, and high-speed translational bridging between Ethernet and CDDI/FDDI. The switch has eight 10-megabit-per-second (Mbps) Ethernet ports and two 100-Mbps CDDI or FDDI ports. Refer to the "Product Overview" chapter in the *Catalyst 1200 Series Switch User Guide* for details of product features and functions.

## Download Troubleshooting

Use Table 1 as a guide to troubleshoot problems when downloading software to the Catalyst 1200 series switch.

**Table 1 Download Errors**

Error	Possible Cause	Possible Solution
File not found. tftp_req_file failed, val=-1	The command syntax is incorrect, or the file cannot be found on the TFTP server.	Enter <b>download help</b> for syntax information and retype the command. Make sure the file name is correct and that the file is located on the TFTP server.
No more processes. tftp_reqfile failed, val=-1	The Catalyst 1200 switch has no processes available (max. = 16)	Terminate unnecessary tasks, such as telnet sessions or pings. Then retry the download.
TFTP session in progress. Try again later.	There is already a download in progress.	Retry the download when the current download process is complete.
<LCP> not enough memory, use fragmented buffers. <LCP> use fragmented buffers for download.	The Catalyst 1200 switch did not find an unfragmented memory chunk, as required for the download process. The Catalyst 1200 allocates the fragmented buffers to a chained list and continues.	None required.
<LCP> RMON task killed. <sup>1</sup>	If after allocating the fragmented buffer to a chained list, the Catalyst 1200 switch still does not have enough memory, it terminates the RMON task.	None required.
<LCP> Router RIP killed. <sup>1</sup> <LCP> SNMPD killed. <sup>1</sup> <LCP> THREAD killed. <sup>1</sup>	If after allocating the fragmented buffer to a chained list and terminating the RMON task, the Catalyst 1200 switch still does not have enough memory, it terminates the RIP, SNMPD, and THREAD tasks.	None required.
No Response from host. tftp_req_file_failed, val=-1	The Catalyst 1200 attempted to connect to the TFTP server, but the connection failed.	Check the physical connectivity to the server. Then check that the IP address or alias for the TFTP server is correct and retry the download.
Can't allocate process state buffer.	The Catalyst 1200 switch does not have enough memory to start the TFTP process.	Other applications might be using too much memory. Retry the download when there is less traffic or terminate the unnecessary telnet sessions or pings.
TFTP failed. Too many retries.	The Catalyst 1200 was disconnected from the TFTP server while downloading the image file.	Check that the network is operational, then retry the download.
Downloaded NMP code length is bad. tftp_req_file failed, val=-1	The image was corrupted because of a TFTP problem.	Retry the download.
Downloaded NMP code checksum failed. tftp_req_file failed, val=-1	The image was corrupted because of a TFTP problem.	Retry the download.

Error	Possible Cause	Possible Solution
The NMP flash was damaged, must first download a valid image.	The user entered Ctrl-C while the Catalyst 1200 switch was clearing or erasing Flash memory.	Retry the download of the same Flash image. If this error occurs again, contact Cisco's Technical Assistance Center.

1. After the download successfully completes, the Catalyst 1200 switch automatically reboots and restarts terminated processes.

## Backing Up RMON Domains

RMON domains can be archived so that if the Catalyst 1200 series switch reboots, the RMON domains can be retrieved. To save the installed RMON domains, follow these steps:

**Step 1** After installing the RMON domains from a NetScout Manager on a server, change to the *bin* directory under the directory where NetScout Manager is installed. For example, if the NetScout Manager is installed in */usr/nsman*, then change to the */usr/nsman/bin* directory.

**Note** If the *agent-list* file in the */usr/nshome/usr* directory already exists, remove this file before proceeding.

**Step 2** Save the list of installed domains of an agent into a new file (*agent-list*) in the directory where the startup file is saved, for example, in */user/nshome/usr*. To save the domains on a UNIX server, type the following:

```
dvlist agent > ../usr/agent-list
```

**Step 3** Change to the */usr/nshome/usr* directory.

**Step 4** Copy the startup file (*startup*) into a new file (*agent-startup*).

**Step 5** Open the new file (*agent-startup*). Replace the *dvinst.cfg* parameter in both places with the name of the new agent list file (*agent-list*) created in Step 2. Save and exit this file.

**Step 6** Enter the NetScout Manager application. In the Start Up File field for the agent that needs to be saved, enter the name of the new agent startup file (*agent-startup*).

For each agent that uses this protocol and these groups in their domains, enter the name of the new agent startup file in the corresponding Start Up File field.

**Step 7** Repeat Steps 4 through 6 for each agent that has different protocols and groups in its domain.

## New Features in Version 4.1

DMP Version 4.1 is an upgrade to the previously released DMP Version 3.27.

NMP Version 4.1 is an upgrade to the previously released NMP Version 3.27.

The following features have been added:

- IEEE 802.10 Trunk Encapsulation
- IP Helper support for Bootstrap Protocol (BOOTP) and Dynamic Host Configuration Protocol (DHCP) and Yellow Pages

- Promiscuous port monitoring using the Switched Port Analyzer (SPAN)
- Virtual LAN (VLAN) support for Bridging
- RMON with SNMP Emanate Agent

## Version 4.1 Caveats

This section describes possible, unexpected behavior by software release 4.1. The caveats listed here describe only serious problems.

- 1 The Catalyst 1200 series switch reboots when you enable the modem using the **set modem enable** command and dial into the switch. When this happens, all sessions to the Catalyst 1200 series switch are disconnected. An exception is **not** reported in the log.

### Workaround:

Disable the modem using the **set modem disable** command.

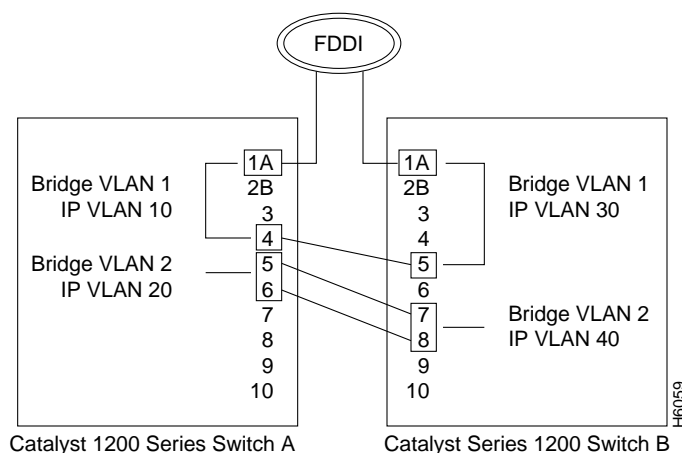
- 2 When Catalyst 1200 series switches are connected in a looped configuration, you must define IP VLANs and Bridged VLANs identically on each Catalyst 1200 series switch. If these are not set correctly, the switches might not route properly.

Refer to Figure 1 and the following example:

Catalyst 1200 series switch A has ports 1 and 4 in bridge VLAN 1 and ports 5 and 6 in bridge VLAN 2. This same switch has ports 1 and 4 in IP VLAN 10 and ports 5 and 6 in IP VLAN 20. This switch is connected in a looped configuration to Catalyst 1200 series switch B.

Catalyst 1200 series switch B has ports 1 and 5 in bridge VLAN 1 and ports 7 and 8 in bridge VLAN 2. This same switch has ports 1 and 5 in IP VLAN 30 and ports 7 and 8 in IP VLAN 40.

**Figure 1 Example of Catalyst 1200 Series Switches in a Looped Configuration**



- 3 When RMON default groups are enabled, traffic local to active ports is not switched. Instead, they are sent to the network management processor (NMP). These packets are not counted as discarded packets. When you enter the **show mac** command, the value in the InDiscard column reflects only discarded packets, not RMON packets sent to the NMP.
- 4 The Catalyst 1200 series switch will switch broadcast and multicast frames in duplicate to the mirroring port when SPAN is enabled.

- 5 RMON with default\_groups enabled affects the spanning-tree process when there is excessive SNMP traffic. The console screen might freeze, but the Catalyst will still switch packets as long as there are no loops in the topology. (CSCdi34837)
- 6 Slow response from the console may occur with RMON default\_routegroup enabled and multiple SNMPWALK sessions running on the Catalyst. Stability of spanning tree might be affected when the Catalyst 1200 series switch is learning a large number of new MAC addresses, as well as learning new IP routes via RIP.

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**Note** This condition does not affect the switching capabilities of the Catalyst.

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**Workaround:**

For IP connectivity, configure a default route on the Catalyst 1200 series switch instead of allowing it to learn RIPs.

- 7 After a spanning-tree topology change, end stations might not be able to reach the Catalyst 1200 series switch on a port that was previously blocked.

**Workaround:**

Clear the ARP entry for the Catalyst's IP address from the originating IP station's ARP table, or clear the ARP table on the Catalyst you are trying to reach.

- 8 Aborting a serial download will cause an NMP exception error when you enter the **show interface** command at the admin port.

**Workaround:**

*Do not* abort a serial download. Let the serial download complete. If you do abort a serial download, reset the switch and reinitiate the serial download.

- 9 Adding route groups through the Workgroup Director requires the correct entry of all IP information, otherwise an error message will be displayed. When you use Workgroup Director Version 4.1 to add new route groups, you must correctly enter all IP information. Otherwise Workgroup Director might display error messages about bad values.

**Workaround:**

When you enter new route groups using the Brouter Table menu form in Workgroup Director, make sure to correctly enter all the IP information, including the IP address, subnet mask, and broadcast address. Click the **SET** button to add the new route group configuration.

- 10 The Catalyst 1200 series switch with RIP enabled can learn up to 1400 IP routes (approximately) without any loss of resources. Because of the resource limitation if the Catalyst 1200 series switch is installed in an IP network where more than 1400 routes are being advertised, the Catalyst 1200 series switch might run out of input resources. This situation can temporarily impact the overall bridging and routing of traffic.

**Workaround:**

Setup default routes in the Catalyst 1200 series switch's routing table and limit the number of broadcast frames that the switch receives by using **set filter broadcast** command throttling mechanism.

- 11 Aborting serial download will cause an NMP exception error when the you enter the **show interface** command at the admin port.

### Workaround:

*Do not* abort a serial download. Let the serial download complete. If you do abort a serial download, reset the switch and reinitiate the serial download.

- 12 The switch does not automatically delete the default route if the routing group configuration is changed using the **set routegroup** command. For example:
  - A switch has a default route set to 199.133.219.42, which is part of a route group 199.133.219.161
  - The user deletes or reconfigures the route group 199.133.219.161 to be part of 194.133.216.219
  - The default route is still set as 199.133.219.42 and is *not* deleted.
  - The switch will not allow a new default route to be configured until the user manually deletes the default route group 199.133.219.42.

### Workaround:

If you remove an IP network from your routing group, delete the corresponding default route using the **clear route default** command.

- 13 When the CAM table is full (when it has 4096 entries), the Catalyst 1200 series switch cannot dynamically learn any additional addresses. The following message is displayed on the console:

```
CAT5> (enable)
Automatic logout...
Enter password: no more free CAM entries, mac_addr = 0 0 d477
no more free CAM entries, mac_addr = 0 0 d4f7
no more free CAM entries, mac_addr = 0 0 d40f
```

However, entries can still be added manually. The Catalyst 1200 series switch discards the oldest dynamic entry and adds the new entry.

## Fixed Caveats in Version 4.1

The following caveats were experienced in previous Catalyst 1200 series switch releases and have been corrected in Release 4.1.

- 1 The Catalyst 1200 series switch advertized its routing interface address and its learned routes on an interface that had been disconnected, disabled, or set to DOWN using the **set interface <port> down** command.

A fix has been provided so that the switch automatically detects whether an interface is UP or DOWN. It advertises only routes of interfaces that are UP on interfaces that are UP. The switch does not advertize routes of interfaces that are DOWN, disabled, or disconnected.
- 2 In the earlier versions of the NMP software, the Catalyst 1200 series switch would replace the previously defined static route or a default route, if it had learned those addresses dynamically, either with a lower hop count or with a hop count of 16. A fix has been provided so that static routes take precedence over dynamic routes.
- 3 The Catalyst 1200 series switch does not learn routes on the interfaces that had been set to DOWN using the **set interface <port> down** command. It also does not learn routes on the interfaces that are disabled.

- 4 The Catalyst 1200 series switch flooded all ports with the multicast traffic for a group when the multicast CAM table entry was deleted. This continued until the multicast group table entry either timed out or a CAM table entry was relearned. A fix has been provided so that the flooding does not occur.

- 5 Previously, the Catalyst 1200 series switch had RIP limitations. The switch can learn and advertise up to 1400 IP routes without a loss of resources. If the switch was learning more than 500 routes via RIP, and if spanning-tree was enabled with the hello timer set to 1 second, the switch temporarily ran out of input resources. This temporarily affected the stability of the spanning-tree configuration.

Also, this situation might have caused the non-root bridge to send duplicate ping responses on a blocked spanning-tree port. The switch could not respond to pings on a blocked spanning-tree port.

The situations described above no longer occur.

- 6 The console became locked if the SUM port on the Catalyst 1200 series switch was connected to an active Ethernet segment and if the user set either a duplicate IP address or a zero address (0.0.0.0).

The console no longer gets locked.

- 7 The SUM port (sc0) IP address scheme changed with Catalyst 1200 Switch Software Release 3.1. Prior to Release 3.1, the IP address assigned to the SUM port was assigned to route group 1. Route group 1 included all ports, including the FDDI port. The SUM port (sc0) was set to IP address 0.0.0.0. The SUM port was not in default route group 1 and was not able to communicate with the switch. Since Release 3.1, the IP address scheme has been modified so that the SUM port can be assigned an IP address independent of route group 1.

- 8 Terminal sessions would freeze if the Catalyst 1200 series switch received fragmented internet control message protocol (ICMP) packets destined to itself on the FDDI ring. The switch still responded to any ping and telnet requests destined for it, and it bridged or routed any packets.

Reassembly of large packets has been disabled; therefore, the Catalyst 1200 series switch now drops any large packets.

- 9 The **show bridge** command displays an FDDI port to be forwarding although it is disconnected physically or disabled using the **set port disable** command. The erroneous status is displayed because the bridge still considers the FDDI port to be in the forwarding state.

The Catalyst 1200 series switch automatically detects the correct status of the port.

## Version 4.1 NetScout RMON Caveats

The following caveats to the NetScout RMON have been identified and workarounds provided:

- 1 The Resource Manager, Remote Login, and Token Ring Main screen icons are not supported by the NetScout Manager software and should not be used.
- 2 If the screen appears frozen or unresponsive this may be caused by a series of unintended actions by the user. For example, if the Main screen is opened, and at the same time the Add Agent submenu screen is opened, and the user clicks on an inappropriate button, the Main screen will move to the front, obscuring the Add Agent submenu. However, the Add Agent submenu screen will remain active in the background, making the Main screen inaccessible.

All submenu actions items must be completed before other Main menu items may be activated.

**Workaround:**

Reduce the frozen screen(s) to icons to find the active submenu screen hidden behind. The active submenu screen must be closed to allow another Main menu selection.

- 3 From the Main screen menu, all other submenus require only one click of the mouse to activate. If the user clicks two times on a selection, two instances of the same selection will be activated, causing multiple instances of the same function with overlapping screens. Multiple instances of the same submenu are a drain on the Client and Agent resources, and should be closed when not in use.

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**Note** The submenus of the Main Screen are independent and can be activated from the Main menu screen with a single click of their button.

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- 4 The Client may run out of resources because the user has too many processes opened at the same time for the amount of RAM and swap space configured in the Client workstation. The agent may also run out of resources due to limited memory availability.

The Catalyst Switch will attempt to install all possible resources using the available memory. If the switch is not successful installing all of the enabled groups for the chosen domain, it will install as many as possible and display the following error messages:

```
no resources...
could not install
```

- 5 If the system appears slow to respond to a command, the possible causes for delayed responses are:
  - The network may be very busy, causing the Client to retransmit the messages to the agent for proper responses.
  - The screens that generate graphic displays, pie charts and bar graphs, for example, may be compiling data needed to generate the graphic display. Initial screen updates may take up to a minute or longer while the system command is sent to the probe, and an initial period of 15 seconds is required for the agent to wait for updated information before returning a screen update.
- 6 If you use the **Config** option from the Main screen to configure RMON, the system does not respond back to you when the configuration has been completed.

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**Note** RMON configuration may take up to two minutes to complete.

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**Workaround:**

Use the Domain Management menu to confirm completion of the RMON configuration or use the Domain Manager submenu from the Main menu screen to install logical agents.

- 7 While communicating with an agent, an error message similar to the following may appear:

```
-- Error accessing agent < agent name >
While retrieving Domains
Error: cannot communicate with agent
```



This error message does not indicate the Catalyst switch is down. This error message may be caused by one or more of the following conditions:

- Busy network
- Two clients are accessing the same agent at the same time
- Not enough socket resources in the TCP/IP stack

**Workaround:**

To verify the Catalyst state, ping the switch or refer to the console window to determine the exact nature of the problem.

- 8 The sample configuration files, with the file extension.cfg, stored in the usr/nohome/samples directory, should not be modified. These files should be copied to the user's working directory and modified to create "user specific" configuration files.



**Caution** If the sample configuration files become corrupted the RMON must be completely reinstalled to create new sample configuration files.

- 9 The two terms *segment* and *domain* have different meanings in the context of NetScout Manager:
  - Domain means an aggregate of protocol filters supported by the NetScout Manager.
  - Segment means the network itself or the subnet which is fully connected.

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**Note** For a subnet of nodes to form a segment, the nodes do not have to be separated by bridges, routers, or gateways.

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To specify segments, a drawing of all nodes including bridges, routers, and gateways should be made. This would facilitate interpretation of the data collected and comparison of the various segments in terms of various data collection activities and remote monitoring of the MIBs.

- 10 When creating logical agents using the Edit Window, any of the following entries will generate an SNMP error code 3:
  - Incorrect interface number
  - Incorrect Read community name
  - Incorrect Write community name

**Workaround:**

Correct the mistakes by editing the configuration file associated with that agent and then reinstalling the file.

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