



# Release Notes for Catalyst 2900 Series XL ATM Modules, Version 12.1(12)

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**January 2002**

Cisco IOS Release 12.1(12) runs on Catalyst 2900 series XL Asynchronous Transfer Mode (ATM) modules.

These release notes include important information about this IOS release and any limitations, restrictions, and caveats that apply to it. For the complete list of Catalyst 2900 XL switch documentation, see the [“Related Documentation” section on page 7](#).

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## Hardware Requirements

The ATM modules work with modular Catalyst 2900 XL switches that use firmware version 11.2(8)SA5 or later. You can check the installed firmware version by using the **show version** privileged EXEC command on the switch. For firmware upgrade procedures, refer to the *Cisco IOS Desktop Switching Software Configuration Guide*. You can access this document on Cisco.com.

**Note**

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The Catalyst 2900 series XL ATM modules can be installed only in a Catalyst 2900 series switch.

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## Upgrading the Module Software

You can download new ATM module software releases from Cisco.com.

## Downloading Files from Cisco.com

Follow these steps to download the new software and, if necessary, the Trivial File Transfer Protocol (TFTP) server application from Cisco.com to your management station:

- 
- Step 1** Display the Cisco home page from one of these URLs:
- <http://www.cisco.com>
  - <http://www-china.cisco.com>
  - <http://www-europe.cisco.com>
- Step 2** Log into Cisco.com. You might need to register the first time you log in.
- Step 3** Download the file from this location:
- <http://www.cisco.com/kobayashi/sw-center/lan/cat2900XL-planner.shtml>.
- Step 4** Use the command-line interface (CLI) or the web-based interface to perform a TFTP transfer of the file or files to the switch after you have downloaded the correct files to your PC or workstation.
- The readme.txt file describes how to download the TFTP server application. New features provided by the software are not available until you reload the software.
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## Displaying the IP Address of the TFTP Server

Before you can download new software to your module, you need to enter the IP address of your PC or workstation on the System Management page. If you are using the Cisco TFTP server, the PC IP address is displayed on the application title bar.

If you do not know the IP address, follow one of these steps to display it:

- For a Windows NT system, enter the command **ipconfig** at the DOS prompt.
- For a Windows 95 or Windows 98 system, select **Start > Run**, and enter **winipcfg**.
- From a UNIX workstation, enter **ifconfig -a**, or look at the `/etc/hosts` file.

## Upgrading the Module Software by Using the CLI

Follow these steps to upgrade the module software:

- Step 1** At the switch prompt, change to privileged EXEC mode by entering the **enable** command:

```
Switch> enable
```

- Step 2** Enter the switch password, if applicable.

```
Password: <password>
Switch#
```

- Step 3** Enter the **copy** command to copy the image in slot 1 or slot 2.

```
Switch# copy tftp://server//filename slot1:boot
```

```
Switch# copy tftp://server//filename slot2:boot
```



**Note** When copying the image, we recommend that you overwrite the old file. This decreases potential problems when you restart the module. When the module restarts, it uses the first image it finds.

- Step 4** Restart the switch by entering the **reload** command:

```
Switch# reload
```

## Upgrading the Module Software by Using VSM

To upgrade the module software by using Visual Switch Manager (VSM), follow these steps on the VSM System Configuration page:



**Note** To avoid errors during the upgrade process, close all other VSM pages.

- Step 1** In the **Combined Cisco IOS and Visual Switch Manager Upgrade** section, enter the IP address of your TFTP server in the **Server IP Address** or **Name of TFTP Server** field.

- Step 2** In the **Cisco ATM Upgrade Filename** field, enter the name of the image file that you downloaded from Cisco.com.

This might be a name like C29atm-m-m-121-1.bin. Do not enter the path.

- Step 3** Click **Upgrade ATM Module on Slot 1** or **Upgrade ATM Module on Slot 2**.

The upgrade can take several minutes. The TFTP server window displays a message when the upgrade is complete.

- Step 4** Click **Reboot System** to restart the switch.

# Installation Notes

You must tighten the screws after inserting the module in the switch.



**Warning**

**Tighten screws to activate.**

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**Waarschuwing**    **Schroeven aandraaien om te activeren.**

**Varoitus**    **Aktivoi kiristämällä ruuvit.**

**Attention**    **Pour activer : serrez les vis.**

**Warnung**    **Schrauben anziehen für Aktivierung.**

**Avvertenza**    **Per attivare: stringere la vite.**

**Advarsel**    **Stram skruene for å aktivere.**

**Aviso**    **Aperte os parafusos para ativar.**

**¡Advertencia!**    **Para activar, apriete los tornillos.**

**Varning!**    **Aktivera genom att dra åt skruvarna**

使用するにはネジを締めてください。

## Documentation Notes

The *Catalyst 2900 Series XL Modules Install and Configure Guide* states the incorrect encapsulation type in Step 4, Chapter 3, “Configuration Example for an RFC-1483 PVC.” This is the corrected text for Step 4.

**Step 4** Create PVCs for RFC 1483 by entering the **atm pvc** command:

```
atm(config-if)# atm pvc 100 0 100 aa15snap 20000 20000 32
atm(config-if)# atm pvc 101 0 101 aa15snap
atm(config-if)# atm pvc 200 0 200 aa15snap
```

The online document contains the corrected procedure.

# Limitations and Restrictions

You should review this section before you begin working with the switches and ATM modules. Some features might not work as documented, and some features could be affected by recent changes to the switch hardware or software.

- When inserting a module in or removing a module from a switch, power off the switch. If you upgrade the IOS Flash image on the ATM module from the switch CLI, restart the switch by entering the **reload** command.
- The IOS **ping** and **traceroute** commands are not supported.
- You can configure multiple Multiprotocol over ATM (MPOA) clients on a single ATM module and bind them to the interface. Doing this might give you unreliable data. Configure only one MPOA client for each ATM module.
- If you configure the bandwidth of a permanent virtual connection (PVC) for a value below 64 kbps, the ATM module discards frames it receives because the AAL5 reassembly timer has a duration that is too short. Configure PVCs for a bandwidth of 64 kbps or higher.
- The ATM module does not send trap information about the link state.
- The LAN emulation (LANE) clients for the ATM module might not work if the LANE servers have IOS Release 11.2(12.0.1) or earlier installed. To avoid this problem, make sure the LANE server is running IOS Release 11.2(12.0.2) or later. If the LANE servers are not running the required IOS release, upgrade the firmware.
- If your attempt to upgrade the ATM module firmware fails while the module is in normal operation, the module continues normal operation. However, the module image stored in the Flash memory is corrupted. When you reset the ATM module, it will not find a valid IOS image, and the ATM module will not pass the power-on self-test (POST). To correct this problem, repeat the firmware upgrade procedure to download a new firmware image on the ATM module.
- You cannot save the ATM module's running configuration to a network TFTP server.

## Important Notes

This section includes information related to previous Cisco IOS software releases.

### Cisco IOS Release 12.1(4)

**Note**

To ensure that Simple Network Management Protocol (SNMP) status is working correctly, be sure that Cisco IOS Release 12.0(5)XU or later is loaded on your Catalyst 2900 XL switch.

## Cisco IOS Release 12.0(7)XF

These features are supported on the ATM modules:

- MPOA client for emulated LANs (ELANs).  
MPOA provides a standards-based Layer 3 switching solution for ATM networks. MPOA enables the fast routing of internetwork-layer packets across a nonbroadcast multiaccess (NBMA) network.
- Fast Simple Server Redundancy Protocol (FSSRP) for LANE.  
FSSRP provides an immediate backup for a LANE server and a LANE broadcast-and-unknown server (BUS). You must enter the **lane config fssrp** command on all LANE configuration servers (LECSs) to enable FSSRP operation.
- Autodiscovery of MPOA servers (MPSs).
- Retry mechanism for establishing shortcut SVCs.
- All SVCs use UBR or best-effort Traffic Descriptor and an unspecified class of service.
- Convergence onto one virtual circuit channel (VCC) from duplicate VCCs.

## Cisco IOS Release 12.0(5)

These features are supported on the ATM modules:

- Multiple virtual LANs (using the Enterprise Edition Software IOS Release 11.2(8)SA5 or later)  
Each ATM trunk supports a maximum of 64 active virtual VLANs at one time. For IOS Release 12.0(5)XP or earlier, you *must* use the Enterprise Edition Software to configure multiple VLANs. If you use the standard edition software, you can only configure one VLAN.
- Emulated LANs (ELANs)  
The ATM module supports multiple ELANs. You can logically group users on Ethernet and ATM networks by mapping VLANs on the Ethernet network to ELANs on the ATM network.
- RFC 1483 PVC  
The ATM modules support multiple VLAN mappings for RFC 1483 logical-link control (LLC) encapsulation for bridged Ethernet (IEEE 802.3). With RFC 1483, you can transport Ethernet frames over a maximum of 1024 PVCs.

## Resolved Caveats

These caveats are resolved in Cisco IOS Release 12.1(12):

- CSCds20104  
Catalyst 2900 XL ATM modules reject non-unspecified bit rate (UBR) LANE data direct switched virtual connections (SVCs). This ensures that third-party switches do not use shaped data direct virtual connections (VCs) with Catalyst 2900 XL ATM modules.
- CSCdr29330  
When configuring an ATM PVC with traffic shaping parameters and then using the ATM bind command, any change or modification of the traffic shaping parameters no longer deletes the ATM PVC bind statement.

- CSCdu31206  
A Catalyst 2900 XL switch with an ATM module installed and configured with a PVC bound to a virtual LAN (VLAN) does not support bridged 1483 spanning-tree Bridge Protocol Data Units (BPDUs), as specified in RFC 1483 para. 4.2, with the format LLC=0xAAAAA03, OUI=0x0080C2, and PID=0x000E. If the switch is connected to a device that sends BPDUs in this format, the switch does not recognize the BPDUs, which can result in spanning-tree loops in redundant configurations.
- CSCdt50621  
A Catalyst 2900 XL ATM module no longer reports a LANE control-queue threshold-drop condition as frame errors. The threshold-drop condition is reported when you use the **show control relay** privileged EXEC command.
- CSCdu51634  
A Catalyst 2900 XL ATM module with a configured LANE client now responds to LANE flush requests on data direct VCs.
- CSCdr52760  
The Catalyst 2900 XL ATM module now correctly forwards incoming frames that are less than 64 bytes. The module pads the smaller frames to the Ethernet minimum of 64 bytes before passing the frames to the switch for forwarding.
- CSCds68422, CSCdp69708, CSCdt70699  
Catalyst 2900 XL ATM modules have been reported as continuously resetting under certain conditions when connected directly to a SONET/SDH ring. Refer to the Field Notice at this web location for more information:  
<http://www.cisco.com/warp/public/770/fn14075.shtml>
- CSCdt76467  
The Catalyst 2900 XL ATM module and the connected LECs now shut down immediately when the other side of the ATM interface on the LS101 switch is shut down.

## Related Documentation

These documents provide complete information about the switch and are available from this Cisco.com site:

<http://www.cisco.com/univercd/cc/td/doc/product/lan/c2900xl/index.htm>

- *Catalyst 2900 Series XL Modules Install and Configure Guide, December 1999*
- *Catalyst 2900 Series XL Installation and Configuration Guide*
- *Cisco IOS Desktop Switching Software Configuration Guide*
- *Cisco IOS Desktop Switching Enterprise Edition Software Configuration Guide*
- *Cisco IOS Desktop Switching Command Reference*
- *Quick Start: Catalyst 2900 Series XL Cabling and Setup*
- *Release Notes for the Catalyst 2900 Series XL Cisco IOS Release 11.2(8)SA5*
- *Release Notes for the Catalyst 2900 Series XL and Catalyst 3500 Series XL Cisco IOS Release 11.2(8)SA6*
- *Release Notes for the Catalyst 2900 Series XL and Catalyst 3500 Series XL Cisco IOS Release 12.0(5)XP*

- *Release Notes for the Catalyst 2900 Series XL and Catalyst 3500 Series XL Cisco IOS Release 12.0(5)XU*
- *Release Notes for the Catalyst 2900 Series XL and Catalyst 3500 Series XL Cisco IOS Release 12.0(5)WX*
- *Release Notes for the Catalyst 2900 Series XL and Catalyst 3500 Series XL Cisco IOS Release 12.0(5.x)WC(1)*
- *Release Notes for the Catalyst 2900 Series XL and Catalyst 3500 Series XL Cisco IOS Release 12.0(5)WC(2)*

## Obtaining Documentation

The following sections provide sources for obtaining documentation from Cisco Systems.

### World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following sites:

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

### Cisco Documentation CD-ROM

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- Registered Cisco Direct Customers can order Cisco Product documentation from the Networking Products MarketPlace:  
[http://www.cisco.com/cgi-bin/order/order\\_root.pl](http://www.cisco.com/cgi-bin/order/order_root.pl)
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<http://www.cisco.com>

## Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

## Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

<http://www.cisco.com/tac>

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

<http://www.cisco.com/register/>

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

<http://www.cisco.com/tac/caseopen>

## Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.

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This document is to be used in conjunction with the documents listed in the “[Related Documentation](#)” section.

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