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# Routed RFC 1483 on the ATM Router Module

Document ID: 10497

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## Introduction

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## Introduction

This document provides a sample configuration for a routed RFC 1483 on the ATM router module (ARM).

The Cisco Catalyst 8540 Multiservice Switch Router (MSR), Catalyst 8510 MSR, and Cisco LightStream 1010 ATM switch routers that have ARM functionality provide Ethernet-to-ATM and ATM-to-ATM bridging and routing. The ARM offers interoperability between:

- The Layer 3 switching interface modules that the Catalyst 8540 Campus Switch Router (CSR) uses and the ATM port adapters and interface modules that the Catalyst 8540 MSR chassis uses
- The Layer 3 switching interface modules that the Catalyst 8510 CSR uses and the ATM port adapters that the Catalyst 8510 MSR and LightStream 1010 chassis use

## Prerequisites

## Requirements

There are no specific requirements for this document.

## Components Used

The information in this document is based on these software and hardware versions:

- Catalyst 8510 and 8540 MSR
- Cisco IOS® Software Release 12.0(10)W5(18c) and later

**Note:** The introduction of RFC 1483 support for the ARM I for the Catalyst 8510 and 8540 MSR was in Cisco IOS Software Release 12.0(10)W5(18c).

**Note:** For software and hardware restrictions for the ARM, refer to the *Hardware and Software Restrictions of the ATM Router Module* section of the document *Configuring ATM Router Module Interfaces*.

The information in this document was created from the devices in a specific lab environment. All of the

devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

## Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions .

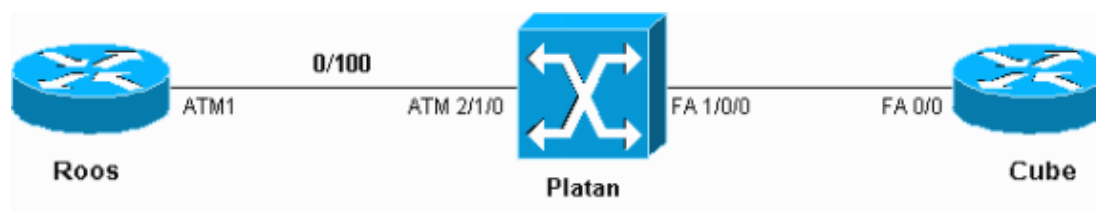
## Sample Configuration Without Traffic Shaping

In this section, you are presented with the information to configure the features described in this document.

**Note:** To find additional information on the commands used in this document, use the Command Lookup Tool ( registered customers only ) .

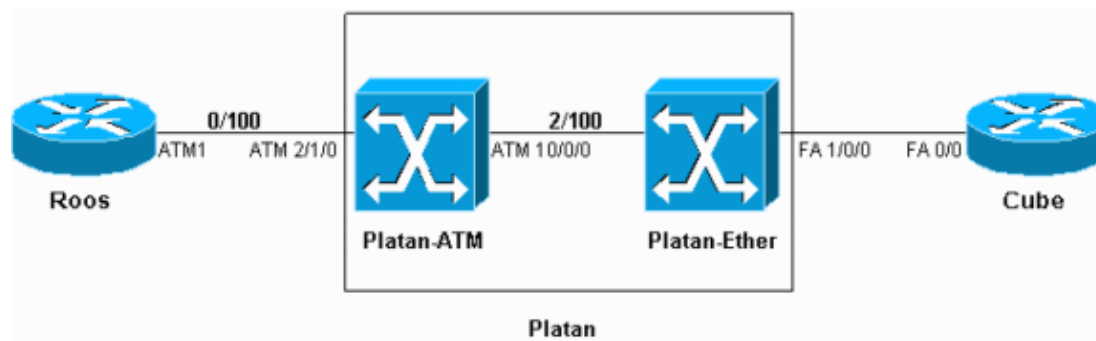
## Network Diagram

This document uses this network setup:



Platan is a Catalyst 8540 MSR that runs Cisco IOS Software Release 12.0(10)W5(18c). An ARM module is present in slot 10. The virtual path identifier/virtual channel identifier (VPI/VCI) with assignment to the permanent virtual circuit (PVC) between Roos and Platan is 0/100.

In order to better understand the setup, view it in this way:



Platan-ATM and Platan-Ether form the Catalyst 8540 MSR. The connection between Platan-ATM and Platan-Ether illustrates the interconnection between the Ethernet and the ATM side through the ARM. As the Configurations show, 2/100 is the extension of the PVC 0/100 from Roos to the ARM. This PVC exists only on the backplane.

ATM 10/0/0 and ATM 10/0/1 are the two virtual ATM interfaces that connect the ARM to the backplane on the Catalyst 8500 MSR. This configuration uses only ATM 10/0/0, but you can use another connection, such as LAN Emulation (LANE), on the other interface.

# Configurations

This document uses these configurations:

- Roos
- Platan
- Cube

The configuration on Roos is a standard configuration. The configuration uses multiple routed protocols over ATM PVCs with Logical Link Control (LLC) encapsulation.

Roos
<pre>interface ATM1   no ip address   no ip directed-broadcast ! interface ATM1.100 multipoint   ip address 12.1.1.1 255.255.255.0   no ip directed-broadcast   pvc 0/100     broadcast     encapsulation aal5snap     protocol ip 12.1.1.2 ! router rip   network 12.0.0.0</pre>

Platan
<pre>interface FastEthernet1/0/0   ip address 12.2.2.2 255.255.255.0   no ip directed-broadcast ! interface ATM10/0/0   no ip address   no ip directed-broadcast ! interface ATM10/0/0.100 multipoint   ip address 12.1.1.2 255.255.255.0   no ip directed-broadcast   map-group test   atm pvc 2 100 pd on interface ATM2/1/0 0 100  !--- This line allows the extension of PVC 0/100 !--- from Roos onto the ARM. Packet discard (pd) is on by default !--- for any ARM PVC. You cannot disable packet discard.  ! map-list test   ip 12.1.1.1 atm-vc 100 broadcast !  router rip   network 12.0.0.0</pre>

Once you have set up this extension, you can configure the corresponding ATM subinterface on the ARM with RFC 1483 . You can configure the corresponding ATM subinterface in the same way as any ATM interface on other routers. Ensure that you configure only multipoint subinterfaces on the ARM I. Originally,

the command line accepted a subinterface that had point-to-point configuration. However, point-to-point subinterfaces are suboptimal because they force the route of all traffic by the main CPU. The route of all traffic by the CPU can cause high CPU utilization. Cisco has removed the ability to configure point-to-point subinterfaces. Refer to Cisco bug ID CSCds75027 ( registered customers only ) .

**Note:** In the **ip 12.1.1.1 atm-vc 100 broadcast** command in the Platan configuration, the value **100** represents the VCI value of the virtual circuit (VC) that is necessary to reach that destination. In this case, the VC is 2/100, so the value is 100.

Cube
<pre>interface FastEthernet0/0 ip address 12.2.2.1 255.255.255.0 full-duplex ! router rip network 12.0.0.0</pre>

Originally, the ARM supported ATM VCs of the unspecified bit rate (UBR) service category. The ARM now supports variable bit rate-nonreal time (VBR-NRT) PVCs. The ARM also supports traffic shaping. Refer to Configuring ATM Router Module Interfaces.

## Verify

There is currently no verification procedure available for this configuration.

## Troubleshoot

There is currently no specific troubleshooting information available for this configuration.

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## Related Information

- [Multiple Routed Protocols Over ATM PVCs Using LLC Encapsulation](#)
- [Multiple Routed Protocols Over ATM PVCs Using VC Multiplexing](#)
- [Basic PVC Configuration Using Bridged RFC 1483](#)
- [Bridged PVC Connection Between a Router and a Catalyst Switch](#)
- [Asynchronous Transfer Mode \(ATM\) Technology Support](#)
- [Technical Support & Documentation – Cisco Systems](#)

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