

Configuring a Cisco 1700/2600/3600 ADSL WIC and a Cisco 6400 Configured With IRB Using RFC1483 Bridging (aal5snap)

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Introduction

The Cisco 1700, 2600, and 3600 Series Routers support the Asymmetric Digital Subscriber Line (ADSL) WAN Interface Card (WIC). All three platforms are configured essentially the same, but there are differences in hardware and in the Cisco IOS® Software release required for each one. Throughout this document, the Cisco 1700/2600/3600 will be called the Cisco ADSL WIC.

This document provides a sample configuration that shows a Cisco ADSL WIC connecting to a Cisco 6130 Digital Subscriber Line Access Multiplexer (DSLAM) and terminating on a Cisco 6400 Universal Access Concentrator (UAC) configured with Integrated Routing and Bridging (IRB).

Note: A Cisco client router (Cisco ADSL WIC) that is in a full bridge mode cannot function as a Dynamic Host Configuration Protocol (DHCP) server for its local LAN clients. If the Cisco ADSL WIC is in bridging mode and configured as a DHCP server, it will fail in leasing out IP addresses to its local Ethernet clients (PCs, UNIX workstations, etc.).

You can configure IRB on the Cisco ADSL WIC and bridge to an ISP. In this case, the Cisco ADSL WIC can be configured as a DHCP server and Network Address Translation (NAT) and be able to lease out IP addresses from its local pool to its LAN clients.

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:

- Cisco 6400 UAC–NRP IOS Software Release 12.1(3)DC1
- Cisco 6400 UAC–NSP IOS Software Release 12.1(3)DB
- Cisco 6130 DSLAM–NI2 IOS Software Release 12.1(5)DA

Hardware Requirements

In order to support the ADSL WIC on the Cisco 2600/3600, this hardware is required:

For the 2600:

- Chassis WIC slots
- NM–2W

For the 3600:

- NM–1FE1R2W
- NM–1FE2W
- NM–2FE2W
- NM–2W

Note: For the Cisco 3600, these do not support the ADSL WIC:

- NM–1E1R2W
- NM–1E2W
- NM–2E2W

Software Requirements

In order to support the ADSL WIC, these minimum Cisco IOS Software releases are required:

- Cisco IOS Software Release 12.1(5)YB (Plus versions only) on the Cisco 2600/3600.
- Cisco IOS Software Release IOS 12.1(3)XJ or later (Plus versions or ADSL feature set only) on the Cisco 1700. The ADSL feature set is identified by "y7" in the image name; for example, c1700–sy7–mz.121–3.XJ.bin.

When you download the image for the Cisco 1700, make sure you select the image name of 1700. Do not download a 1720 or a 1750 image. The features will not support the ADSL WIC.

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

Refer to Cisco Technical Tips Conventions for more information on document conventions.

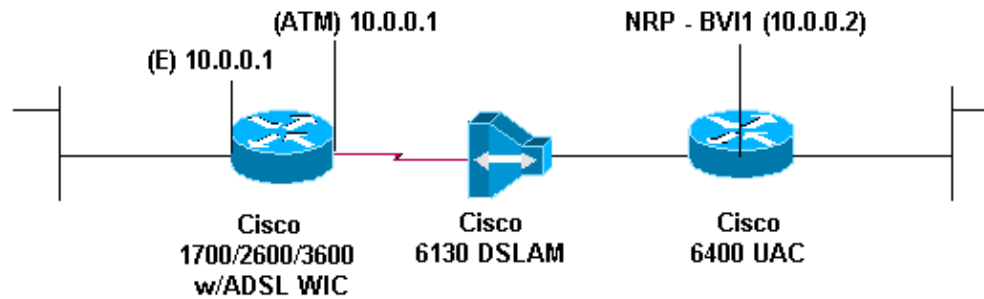
Configure

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

Note: Use the Command Lookup Tool (registered customers only) to find more information on the commands used in this document.

Network Diagram

This document uses this network setup:



Configurations

In order to Telnet to (or ping) the Cisco ADSL WIC from the Internet, you must configure an IP address and a MAC address on the ATM interface. For the IP address, configure the same IP address on the ATM interface that you configured on the Ethernet interface. For the MAC address, issue the **show interface eth0** command. Note the MAC address and configure this same MAC address on the ATM interface.

When the Cisco ADSL WIC is bridging IP on the Ethernet and ATM interfaces, both interfaces can have the same IP address.

This document uses these configurations:

Note the **no ip routing** command in the configuration.

Cisco ADSL WIC
<pre>Current configuration: ! version 12.1 service timestamps debug datetime msec service timestamps log datetime msec no service password-encryption ! hostname R1 ! ip subnet-zero no ip routing ! interface FastEthernet0 ip address 10.0.0.1 255.0.0.0 no ip directed-broadcast no ip mroute-cache bridge-group 1 ! interface Atm0 mac-address 0030.96f8.45bd ip address 10.0.0.1 255.0.0.0 no ip directed-broadcast no ip mroute-cache no atm ilmi-keepalive pvc 1/150 encapsulation aal5snap</pre>

```
!  
bundle-enable  
bridge-group 1  
hold-queue 224 in  
!  
ip classless  
no ip http server  
!  
bridge 1 protocol ieee  
!  
end
```

Cisco Access 6400 NRP1

```
bridge irb  
!  
interface ATM0/0/0.200 point-to-point  
no ip directed-broadcast  
pvc 1/301  
encapsulation aal5snap  
!  
bridge-group 1  
!  
interface BVI1  
ip address 10.0.0.2 255.0.0.0  
no ip directed-broadcast  
  
bridge 1 protocol ieee  
bridge 1 route ip  
!  
end
```

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

- [Asymmetric Digital Subscriber Line \(ADSL\) Support Page](#)
- [Technical Support & Documentation – Cisco Systems](#)

