

Configuring a Cisco 827 Router and a Cisco 6400 Configured With IRB Using RFC1483 Bridging (aal5snap)

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Introduction

Before You Begin

Conventions

Prerequisites

Components Used

Configure

Network Diagram

Configurations

Verify

Troubleshoot

NetPro Discussion Forums – Featured Conversations

Related Information

Introduction

This sample configuration shows a Cisco 827 Digital Subscriber Line (DSL) Router 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 827) 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 827 is in bridging mode and configured as a DHCP server, it will fail in leasing out IP addresses to its local Ethernet clients (such as PCs and UNIX workstations).

You can configure IRB on the Cisco 827 and bridge to an ISP. In this case, the Cisco 827 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.

Before You Begin

Conventions

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

Prerequisites

There are no specific prerequisites for this document.

Components Used

The information in this document is based on the software and hardware versions below.

- Cisco 827-4V Customer Premises Equipment (CPE) IOS® Software Release 12.1(1)XB

- Cisco 6400 UAC–NRP IOS Software Release 12.0(7)DC
- Cisco 6400 UAC–NSP IOS Software Release 12.0(4)DB
- Cisco 6130 DSLAM–NI2 IOS Software Release 12.1(1)DA

The information presented in this document was created from devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If you are working in a live network, ensure that you understand the potential impact of any command before using it.

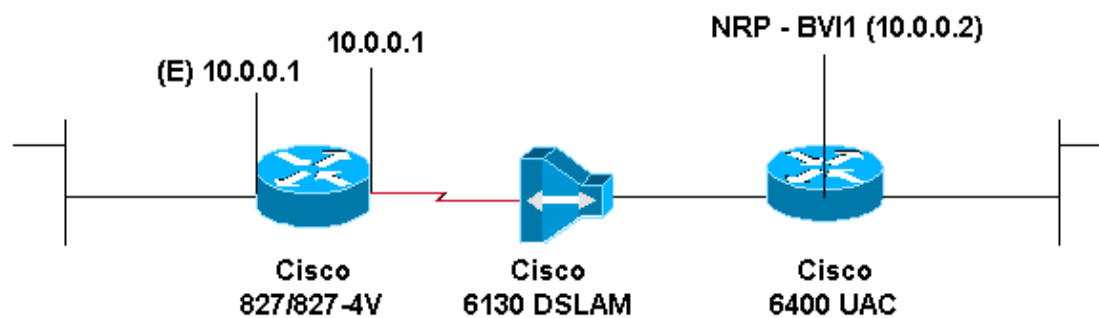
Configure

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 the network setup shown in the diagram below.



Configurations

To be able to Telnet to (or ping) the Cisco 827 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 827 is bridging IP on the Ethernet and ATM interfaces, both interfaces can have the same IP address.

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

- Cisco 827
- Cisco Access 6400 NRP1

Cisco 827
<pre>Current configuration: ! version 12.1 service timestamps debug datetime msec service timestamps log datetime msec no service password-encryption</pre>

```

!
hostname R1
!
ip subnet-zero
no ip routing
!
interface Ethernet0
 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
!
 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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Network Infrastructure: Remote Access
Service Providers: VPN Service Architectures

Related Information

- [Configuring the Cisco 827 Router](#)
- [DSL Support Page](#)
- [Cisco Product Support](#)
- [Technical Support – Cisco Systems](#)

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