

Configuring a Cisco 827 Router With AAL5MUX Encapsulation, Multiple PVCs, and Terminating on a Cisco 6400 UAC–NRP

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Introduction

This sample configuration shows a Cisco 827 Digital Subscriber Line (DSL) Router that has been configured with AAL5MUX encapsulation and supports multiple Permanent Virtual Circuits (PVCs). The Cisco 827 is connected to a Cisco 6130 Digital Subscriber Line Access Multiplexer (DSLAM) and terminates at a Cisco 6400 Universal Access Concentrator–Node Route Processor (UAC–NRP). Also included are configurations for the Cisco 6130 and Cisco 6400.

In this example, IP is used for both PVCs to show how it maps to the Cisco 6400 UAC–NRP.

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.

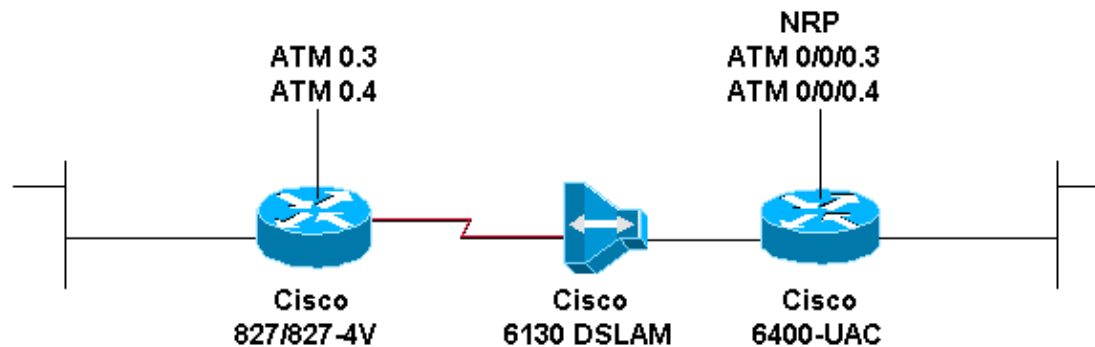
Configure

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

This document uses the configurations shown below.

- Cisco 827
- Cisco 6130 DSLAM (NI2)
- Cisco 6400–NSP1
- Cisco 6400–NRP1

Cisco 827
<pre>Current configuration: ! version 12.1 service timestamps debug datetime msec service timestamps log datetime msec ! hostname R1 ! ip subnet-zero ! interface Ethernet0 no ip address no ip directed-broadcast shutdown ! interface ATM0 no ip address no ip directed-broadcast no atm ilmi-keepalive bundle-enable</pre>

```

hold-queue 224 in
!
interface ATM0.3 point-to-point
 ip address 172.18.0.1 255.255.0.0
 no ip directed-broadcast
 pvc 3/100
  protocol ip 172.18.0.2
  encapsulation aal5mux ip
!
!
interface ATM0.4 point-to-point
 ip address 172.19.0.1 255.255.0.0
 no ip directed-broadcast
 PVC 4/100
  protocol ip 172.19.0.2
  encapsulation aal5mux ip
!
!
ip classless
ip route 172.18.0.2 255.255.255.255 ATM0.3
ip route 172.19.0.2 255.255.255.255 ATM0.4
!
voice-port 1
 timing hookflash-in 0
!
voice-port 2
 timing hookflash-in 0
!
voice-port 3
 timing hookflash-in 0
!
voice-port 4
 timing hookflash-in 0
!
end

```

Cisco 6130 DSLAM (NI2)

```

Current configuration:
!
version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
!
hostname ni2
!
interface ATM0/0
 no ip address
 ATM cac service-category abr deny
 ATM maxvp-number 0
 ATM maxvc-number 4096
 ATM maxvci-bits 12
!
interface Ethernet0/0
 no ip route-cache
!
interface ATM0/1
 no ip address
 ATM ilmi-keepalive
 ATM cac service-category abr deny
!
interface ATM1/4
 no ip address
 no ATM ilmi-keepalive
 ATM PVC 3 100 interface ATM0/1 3 100

```

```
ATM PVC 4 100 interface ATM0/1 4 100
ip classless
no ip http server
!
end
```

Cisco 6400-NSP1

```
Current configuration:
version 12.0
service timestamps debug datetime msec
service timestamps log datetime msec
!
hostname NSP1
!
interface ATM0/0/0
no ip address
no ip directed-broadcast
!
interface Ethernet0/0/0
no ip directed-broadcast
!
interface ATM1/0/0
no ip address
no ip directed-broadcast
no ATM ilmi-keepalive
!
interface ATM8/0/1
no ip address
no ip directed-broadcast
no ATM ilmi-keepalive
ATM PVC 3 100 interface ATM1/0/0 3 100
ATM PVC 4 100 interface ATM1/0/0 4 100
!
ip classless
end
```

Cisco 6400-NRP1

```
Current configuration:
!
version 12.0
service timestamps debug datetime msec
service timestamps log datetime msec
!
hostname NRP
!
interface ATM0/0/0
no ip address
no ip directed-broadcast
no ip route-cache
no ip mroute-cache
no ATM ilmi-keepalive
!
interface ATM0/0/0.3 point-to-point
ip address 172.18.0.2 255.255.0.0
no ip directed-broadcast
no ip route-cache
PVC 3/100
encapsulation aal5mux ip
!
!
interface ATM0/0/0.4 point-to-point
ip address 172.19.0.2 255.255.0.0
```

```
no ip directed-broadcast
no ip route-cache
PVC 4/100
  encapsulation aal5mux ip
!
interface Ethernet0/0/1
  no ip address
  no ip directed-broadcast
!
interface Ethernet0/0/0
  no ip directed-broadcast
!
interface FastEthernet0/0/0
  no ip address
  no ip directed-broadcast
  full-duplex
!
ip classless
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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NetPro Discussion Forums – Featured Conversations for DSL

Network Infrastructure: Remote Access

Service Providers: VPN Service Architectures
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Related Information

- [Multiple Routed Protocols Over ATM PVCs Using VC Multiplexing](#)
- [Configuring the Cisco 827 Router](#)
- [Cisco 6400 Software Setup Guide](#)
- [DSL Support Page](#)
- [Cisco Product Support](#)
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