

# Configuring a Cisco 827 Router With Two PVCs Using PPPoA (aal5mux ppp)

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## Introduction

This sample configuration shows a Cisco 827 Router configured with two permanent virtual circuits (PVCs) and terminating on a Cisco 6400 Universal Access Concentrator (UAC). The UAC has a single node route processor (NRP) installed. Both PVCs use an interface dialer and have been configured by issuing the **aal5mux ppp** command. If you need more discussion about end-to-end ADSL PPPoA architecture, please read PPPoA Baseline Architecture document.

## 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 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.

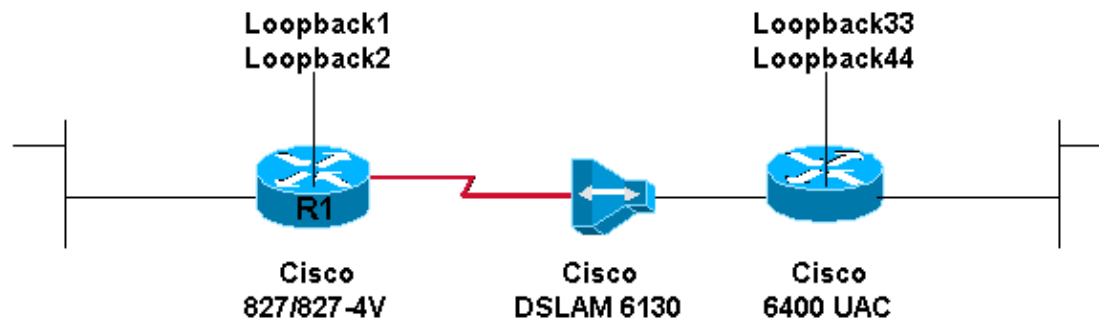
# Configure

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.

**Note:** Make sure chap hostname differs for each PVC.

- Cisco 827
- Cisco 6400–NRP

Cisco 827
Current configuration: ! version 12.1 no service pad service timestamps debug datetime msec service timestamps log datetime msec ! hostname R1 ! ip subnet-zero ! interface Loopback1 ip address 172.16.0.1 255.255.0.0 no ip directed-broadcast  interface Loopback2 ip address 172.17.0.1 255.255.0.0 no ip directed-broadcast ! interface Ethernet0 no ip address no ip directed-broadcast ! interface ATM0 no ip address no ip directed-broadcast

```

no atm ilmi-keepalive
bundle-enable
hold-queue 224 in
!
interface ATM0.3 point-to-point
no ip directed-broadcast
no ip mroute-cache
pvc 3/100
encapsulation aal5mux ppp dialer
dialer pool-member 3
!
!
interface ATM0.4 point-to-point
no ip directed-broadcast
no ip mroute-cache
PVC 4/100
encapsulation aal5mux ppp dialer
dialer pool-member 4
!
!
interface Dialer3
ip address 172.18.0.1 255.255.0.0
no ip directed-broadcast
encapsulation ppp
no ip mroute-cache
dialer pool 3
dialer-group 1
ppp authentication chap callin
ppp chap hostname username1
ppp chap password password1
!
interface Dialer4
ip address 172.19.0.1 255.255.0.0
no ip directed-broadcast
encapsulation ppp
no ip mroute-cache
dialer pool 4
dialer-group 1
ppp authentication chap callin
ppp chap hostname username2
ppp chap password password2
!
ip classless
ip route 172.20.0.1 255.255.255.255 Dialer3
ip route 172.21.0.1 255.255.255.255 Dialer4
!
dialer-list 1 protocol ip permit
!
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 6400-NRP

Current configuration:

```
!  
version 12.0  
service timestamps debug datetime msec  
service timestamps log datetime msec  
!  
hostname NRP  
!  
username username1 password password1  
username username2 password password2  
!  
redundancy  
  main-cpu  
  no auto-sync standard  
  no secondary console enable  
ip subnet-zero  
!  
interface Loopback33  
  ip address 172.20.0.1 255.255.0.0  
  no ip directed-broadcast  
!  
interface Loopback44  
  ip address 172.21.0.1 255.255.0.0  
  no ip directed-broadcast  
!  
interface ATM0/0/0  
  no ip address  
  no ip directed-broadcast  
  no ip mroute-cache  
  no ATM ilmi-keepalive  
!  
interface ATM0/0/0.3 point-to-point  
  no ip directed-broadcast  
  PVC 3/100  
    encapsulation aal5mux ppp Virtual-Template3  
!  
!  
interface ATM0/0/0.4 point-to-point  
  no ip directed-broadcast  
  no ip route-cache  
  PVC 4/100  
    encapsulation aal5mux ppp Virtual-Template4  
!  
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  
!  
interface Virtual-Template3  
  ip unnumbered Loopback33  
  no ip directed-broadcast  
  no peer default ip address  
  ppp authentication chap  
!  
interface Virtual-Template4  
  ip unnumbered Loopback44  
  no ip directed-broadcast  
  no peer default ip address  
  ppp authentication chap  
!
```

```
ip classless
ip route 172.16.0.0 255.255.0.0 172.19.0.1
ip route 172.17.0.0 255.255.0.0 172.18.0.1
!
end
```

## Verify

There is currently no verification procedure available for this configuration.

## Troubleshoot

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

## NetPro Discussion Forums – Featured Conversations

Networking Professionals Connection is a forum for networking professionals to share questions, suggestions, and information about networking solutions, products, and technologies. The featured links are some of the most recent conversations available in this technology.

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NetPro Discussion Forums – Featured Conversations for DSL
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Network Infrastructure: Remote Access
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Service Providers: VPN Service Architectures
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## Related Information

- [Cisco DSL Router Configuration and Troubleshooting Guide](#)
  - [Network Scenarios for Cisco 826/827/828/831/837 and SOHO 76/77/78/91/96](#)
  - [Advanced Configuration for Cisco 826/827/828/831/837 and SOHO 76/77/78/91/96](#)
  - [Troubleshooting Cisco 826/827/828/831/837 and SOHO 76/77/78/91/96](#)
  - [PPPoA Baseline Architecture](#)
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