

# Configuring a Cisco SOHO77 Router With NAT, a DHCP Server, and Easy IP Using PPPoA (aal5mux ppp)

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## Introduction

This sample configuration shows a Cisco SOHO77 Digital Subscriber Line (DSL) Router that connects to a Cisco 6130 Digital Subscriber Line Access Multiplexer (DSLAM) and terminates on a Cisco 6400 Universal Access Concentrator (UAC). The Cisco SOHO77 is configured with PPP over ATM (PPPoA) with Network Address Translation (NAT) and IP address negotiation turned on. The Cisco SOHO77 also functions as a server for its local Ethernet 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 SOHO77–4V 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 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 Cisco Technical Tips Conventions.

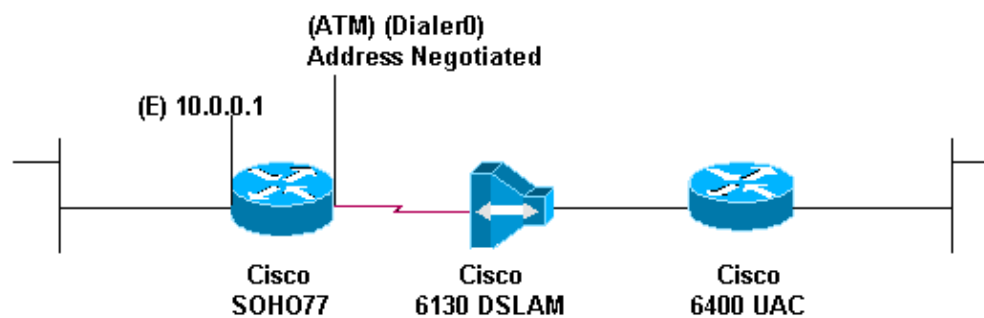
## Configure

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 this diagram.



## Configurations

This document uses the configurations shown here.

- Cisco SOHO77
- Cisco Access 6400 NRP1

Cisco SOHO77
<pre>! version 12.1 service timestamps debug datetime msec service timestamps datetime msec ! hostname R1 ! ip subnet-zero ! ip dhcp excluded-address 10.0.0.1 ! ip dhcp pool &lt;pool name&gt;   network 10.0.0.0 255.0.0.0   default-router 10.0.0.1 ! interface Ethernet0   ip address 10.0.0.1 255.0.0.0   no ip directed-broadcast   ip nat inside   no ip mroute-cache ! interface ATM0   no ip address</pre>

```

no ip directed-broadcast
no ip mroute-cache
no atm ilmi-keepalive
pvc 1/150
  encapsulation aal5mux ppp dialer
  dialer pool-member 1
!
hold-queue 224 in
!
interface Dialer0
  ip address negotiated
  no ip directed-broadcast
  ip nat outside
  encapsulation ppp
  dialer pool 1
  dialer-group 1
  ppp pap sent-username <username> password <password>
!
ip nat inside source list 101 interface Dialer0 overload
ip classless
ip route 0.0.0.0 0.0.0.0 Dialer0
no ip http server
!
access-list 101 permit ip 10.0.0.0 0.255.255.255 any
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 Access 6400 NRP1

```

username <username> password <password>

!--- The username and password values must
!--- match the username and password values
!--- of the remote device.

!
interface ATM0/0/0.200 point-to-point
  no ip directed-broadcast
  no ip route-cache
  pvc 1/301
    encapsulation aal5mux ppp Virtual-Templatell
!
interface Virtual-Templatell
  ip unnumbered Ethernet0/0/0
  no ip directed-broadcast
  peer default ip address pool <pool name>
  ppp authentication pap
!
ip local pool <pool name> 172.17.0.1 172.17.0.10

```

## 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.

<a href="#">NetPro Discussion Forums – Featured Conversations for DSL</a>
<a href="#">Network Infrastructure: Remote Access</a>
<a href="#">Service Providers: VPN Service Architectures</a>

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## Related Information

- [Technical Support – DSL](#)
- [DSL Technology Support Information](#)
- [DSL Product Support Information](#)
- [Technical Support – Cisco Systems](#)

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