

Configuring a Cisco SOHO77 Router Using PPPoA With CHAP and PAP

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Introduction

The sample configurations in this document show a Cisco SOHO77 digital subscriber line (DSL) router that is connected to a Cisco 6130 DSL access multiplexer (DSLAM) and terminates on a Cisco 6400 Universal Access Concentrator (UAC). Each configuration uses Point-to-Point Protocol over Asynchronous Transfer Mode (PPPoA). The Asynchronous Transfer Mode (ATM) interface is configured for AALMUX PPP encapsulation.

One configuration shows PPPoA using Challenge Handshake Authentication Protocol (CHAP). The second configuration shows PPPoA using Password Authentication Protocol (PAP).

Prerequisites

Requirements

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 SOHO77 customer premises equipment (CPE) IOS® Software Release 12.1(3)XP2
- 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

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.

Conventions

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

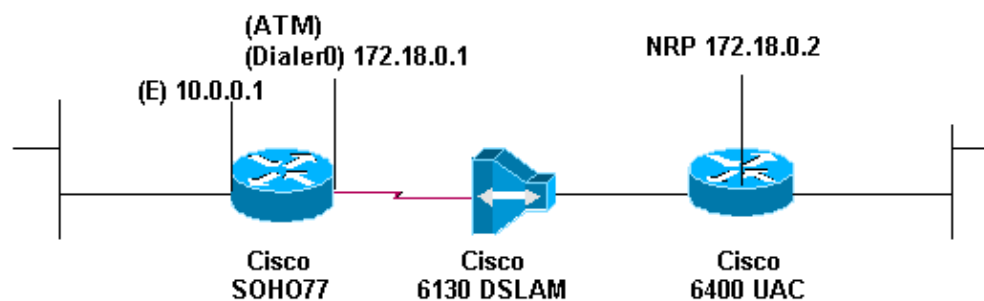
Configure

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 the diagram below.



Configurations

This document uses the configurations shown in this section.

- PPPoA using CHAP
- PPPoA using PAP

PPPoA Using CHAP

When you use the virtual template interface, only configure the hostname and password (with the **ppp chap hostname** *username* and **ppp chap password** *password* commands). The PPP authentication command **chap callin** is not supported in this configuration. In this example, an interface dialer is used; it is not affected by the authentication protocol.

Cisco SOHO77
<pre>! version 12.1 ! service timestamps debug datetime msec service timestamps log datetime msec ! hostname R1 ! ip subnet-zero ! interface Ethernet0 ip address 10.0.0.1 255.0.0.0 no ip directed-broadcast no ip mroute-cache !</pre>

```

interface ATM0
  no ip address
  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 172.18.0.1 255.255.0.0
  no ip directed-broadcast
  encapsulation ppp
  dialer pool 1
  dialer-group 1
  ppp authentication chap callin
  ppp chap hostname <username>
  ppp chap password <password>
  !
  ip classless
  !
  dialer-list 1 protocol ip permit
  !
end

```

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 address 172.18.0.2 255.255.0.0
  no ip directed-broadcast
  ppp authentication chap
  !

ip route 10.0.0.1 255.255.255.255 172.18.0.1

```

PPPoA Using PAP

When you use the virtual template interface, only configure the hostname and password (with the **ppp pap sent-username** *username* and **ppp chap password** *password* commands). The PPP authentication command **ppp authentication pap callin** is not supported in this configuration. In this example, an interface dialer is used; it is not affected by the authentication protocol.

Cisco SOHO77

```

version 12.1

```

```

!
service timestamps debug datetime msec
service timestamps log datetime msec
!
hostname R1
!
ip subnet-zero
!
interface Ethernet0
 ip address 10.0.0.1 255.0.0.0
 no ip directed-broadcast
 no ip mroute-cache
!
interface ATM0
 no ip address
 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 172.18.0.1 255.255.0.0
 no ip directed-broadcast
 encapsulation ppp
 dialer pool 1
 dialer-group 1
 ppp authentication pap callin
ppp pap sent-username <username> password <password>
!
 ip classless
 no ip http server
!
dialer-list 1 protocol ip permit
!

```

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 address 172.18.0.2 255.255.0.0
 no ip directed-broadcast
 ppp authentication pap
!
ip route 10.0.0.1 255.255.255.255 172.18.0.1

```

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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