

Configuring a Cisco 1700/2600/3600 ADSL WIC Using PPPoA With CHAP and PAP

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Introduction

The Cisco 1700, 2600, and 3600 series routers support the asymmetric digital subscriber line (ADSL) WAN Interface Card (WIC). All three platforms are configured essentially the same, but there are differences in hardware and in the Cisco IOS® Software release required for each one. Throughout this document, the Cisco 1700/2600/3600 is referred to as the Cisco ADSL WIC.

This document shows a Cisco ADSL WIC connected to a Cisco 6130 DSL access multiplexer (DSLAM) that terminates on a Cisco 6400 Universal Access Concentrator (UAC). Each configuration uses PPP over ATM (PPPoA). The ATM interface is configured for AALMUX PPP encapsulation.

One configuration shows PPPoA that uses Challenge Handshake Authentication Protocol (CHAP). The second configuration shows PPP over ATM that uses Password Authentication Protocol (PAP).

Prerequisites

Requirements

Before attempting this configuration, ensure that you meet these requirements:

- 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

Components Used

The information in this document is based on these software and hardware versions:

To support the ADSL WIC on the Cisco 2600/3600, these hardware products are required:

- 2600: Chassis WIC slots, NM–2W
- 3600: NM–1FE1R2W, NM–1FE2W, NM–2FE2W, NM–2W

Note: For the Cisco 3600, ADSL is not supported on WIC NM-1E1R2W, NM-1E2W, or NM-2E2W.

To support the ADSL WIC, these are the minimum Cisco IOS Software releases required:

- Cisco IOS Software Release 12.1(5)YB (Plus versions only) on the Cisco 2600/3600
- Cisco IOS Software Release IOS 12.1(3)XJ or later (Plus versions or ADSL feature set only) on the Cisco 1700. The ADSL feature set is identified by "y7" in the image name; for example, c1700-sy7-mz.121-3.XJ.bin.

Note: When you download the image for the Cisco 1700, make sure you select the image name of 1700. Do not download a 1720 or a 1750 image; the features will not support the ADSL WIC.

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, see the Cisco Technical Tips Conventions.

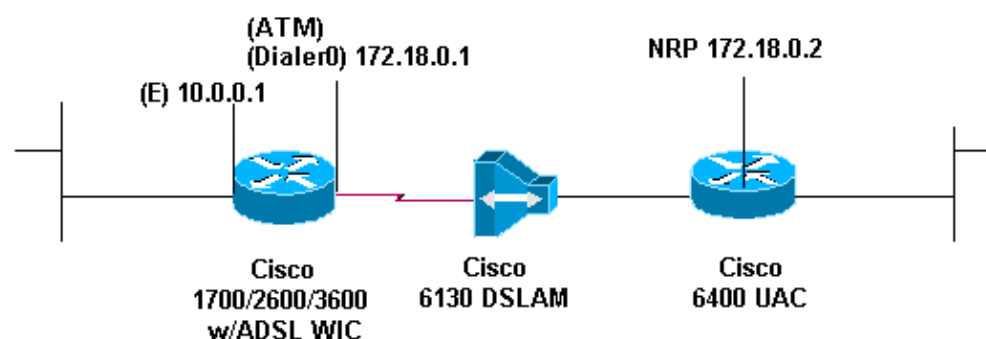
Configure

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 below.

- PPPoA which uses CHAP
- PPPoA which uses PAP

When you use the **interface virtual-template** command for PPPoA that uses CHAP, configure only the **ppp chap sent-username username password password**. The **ppp authentication chap callin** command is not supported. In this example of PPPoA that uses CHAP, the **interface dialer** command is used, which is not affected.

Cisco ADSL WIC

```
Current configuration:
!
version 12.1
!
service timestamps debug datetime msec
service timestamps log datetime msec
!
hostname R1
!
ip subnet-zero
!
interface FastEthernet0
 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 chap callin
 ppp chap hostname username

 ppp chap password password
!
 ip classless
 ip route 0.0.0.0.0.0.0.0 dialer0
!
 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-Template11
!
interface Virtual-Template11
```

```

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

```

When you use the **interface virtual-template** command for PPPoA that uses PAP, configure only the **ppp pap sent-username *username* password *password*** command. The **ppp authentication pap callin** command is not supported. In this example of PPPoA that uses PAP, the **interface dialer** command is used, which is not affected.

Cisco ADSL WIC

```

version 12.1
!
service timestamps debug datetime msec
service timestamps log datetime msec
!
hostname R1
!
ip subnet-zero
!
interface FastEthernet0
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
ip route 0.0.0.0.0.0.0.0 dialer0
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-Template1
!
interface Virtual-Template1
  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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Service Providers: VPN Service Architectures

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