

Cisco DSL Router Configuration and Troubleshooting Guide – Step-by-Step Configuration of RFC1483 Pure Bridging

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Introduction

Prerequisites

- Requirements
- Components Used
- Conventions

Configure

- Connect the Cisco DSL Router and Your PC
- Start and Set Up HyperTerminal
- Clear Existing Configurations on the Cisco DSL Router
- Configure the Cisco DSL Router Configuration

Verify

Troubleshoot

Related Information

Introduction

Your Internet Service Provider (ISP) has assigned an RFC1483 Bridging connection.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software and hardware versions.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Configure

Important: Before you begin, close all programs on the PC that might be monitoring your COM port. Devices such as PDAs and digital cameras often place programs in the system tray that will render your COM port unusable for configuring your Cisco Digital Subscriber Line (DSL) Router.

Connect the Cisco DSL Router and Your PC

A console connection is made with a rolled cable and connects the console port of the Cisco Digital

Subscriber Line (DSL) Router to a COM port on a PC. The console cable that is included with the Cisco DSL Router is a flat light blue cable. For more information on the pinouts of a rolled cable, or the pinouts of an RJ-45 to DB9 converter, refer to Cabling Guide for Console and AUX Ports.

1. Connect the RJ-45 connector on one end of a Cisco console cable to the console port of the Cisco DSL Router.
2. Connect the RJ-45 connector at the other end of the console cable to an RJ-45 to DB9 converter.
3. Connect the DB9 connector to an open COM port on your PC.

Start and Set Up HyperTerminal

Complete these steps:

1. Start the HyperTerminal program on the PC.
2. Set up your HyperTerminal session.
 - a. Assign a name to your session, and click **OK**.
 - b. From the Connect To window, click **Cancel**.
 - c. From the File menu, click **Properties**.
 - d. From the Properties window, in the Connect Using list, select the COM port where you connect the DB9 end of the console cable.
 - e. From the Properties window click **Configure** and fill in these values:
 - ◇ Bits per second: **9600**
 - ◇ Data bits: **8**
 - ◇ Parity: **None**
 - ◇ Stop bits: **1**
 - ◇ Flow Control: **None**
 - f. Click **OK**.
 - g. From the Call menu, click **Disconnect**.
 - h. From the Call menu, click **Call**.
 - i. Press **Enter** until you see a router prompt on your HyperTerminal screen.

Clear Existing Configurations on the Cisco DSL Router

Complete these steps:

1. Type **enable** at the router prompt to enter privileged mode.

```
Router>enable  
Router#
```

!--- The # symbol indicates that you are in privileged mode.

2. Clear existing configurations on the router.

```
Router#write erase
```

3. Reload the router so it boots with a blank startup configuration.

```
Router#reload  
System configuration has been modified. Save? [yes/no]:no  
Proceed with reload? [confirm]yes
```

!--- Reloading the router can take a few minutes.

4. After the router has reloaded, enter enable mode again.

```
Router>enable
Router#
```

Configure the Cisco DSL Router

Complete these steps:

1. Configure **service timestamp** to properly log and display **debug** output in the troubleshooting section.

```
Router#configure terminal
Router(config)#service timestamps debug datetime msec
Router(config)#service timestamps log datetime msec
Router(config)#end
```

2. Disable the logging console on your Cisco DSL Router to suppress console messages that may be triggered while you are configuring the router.

```
Router#configure terminal
Router(config)#no logging console
Router(config)#end
```

3. Configure a bridge protocol and disable routing on your Cisco DSL Router.

```
Router#configure terminal
Router(config)#no ip routing
Router(config)#bridge 1 protocol ieee
Router(config)#end
```

4. Configure a bridge group on the Cisco DSL Router Ethernet interface.

```
Router#configure terminal
Router(config)#interface ethernet 0
Router(config-if)#bridge group 1
Router(config-if)#no shut
Router(config-if)#end
```

5. Configure the ATM interface of your Cisco DSL Router with an ATM permanent virtual circuit (PVC), encapsulation type, and bridge group.

```
Router#configure terminal
Router(config)#interface atm 0
Router(config-if)#bridge-group 1
Router(config-if)#pvc <vpi/vci>
Router(config-if-atm-vc)#encapsulation aal5snap
Router(config-if-atm-vc)#no shut
Router(config-if-atm-vc)#end
```

6. Enable the logging console on the Cisco DSL Router, and write all the changes to memory.

```
Router#configure terminal
Router(config)#logging console
Router(config)#end
*Jan 1 00:00:00.100: %SYS-5-CONFIG_I: Configured from console by console
Router#write memory
Building configuration... [OK]
Router#
```

Configuration

This is the configuration that results after you complete the procedures in this document.

Cisco DSL Router with RFC1483 Pure Bridging

```
!--- Comments contain explanations and additional information.

service timestamps debug datetime msec
service timestamps log datetime msec
!
no ip routing
!
interface ethernet0
  no shut
  no ip directed-broadcast
  bridge-group 1
!
interface atm0
  no shut
  no ip address
  no ip directed-broadcast
  no atm ilmi-keepalive
  pvc <vpi/vci>
    encapsulation aal5snap

!--- Common PVC values supported by ISPs are 0/35 or 8/35.
!--- Confirm your PVC values with your ISP.

!
bridge-group 1
!
bridge 1 protocol ieee
!
end
```

Verify

Your Cisco DSL Router should now be operational for Asymmetric Digital Subscriber Line (ADSL) service. You can issue a **show run** command in order to see the configuration.

```
Router#show run
Building configuration...
```

The Output Interpreter Tool (registered customers only) (OIT) supports certain **show** commands. Use the OIT to view an analysis of **show** command output.

Troubleshoot

If your ADSL service does not work properly, refer to RFC1483 Pure Bridging Troubleshooting.

Related Information

- [Cisco DSL Router Configuration and Troubleshooting Guide – Cisco DSL Router: RFC1483 Pure Bridging](#)
 - [Cisco DSL Router Configuration and Troubleshooting Guide](#)
 - [Technical Support & Documentation – Cisco Systems](#)
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