

Cisco DSL Router Configuration and Troubleshooting Guide – RFC1483 Routing with a Block of Static IP Addresses

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Introduction

Your Internet Service Provider (ISP) has assigned a block of public IP addresses to your LAN, but you were not assigned a single public IP address for the ATM interface on the Cisco Digital Subscriber Line (DSL) Router. To enable all your internal users to access the Internet using this block of IP addresses, you must follow the tasks outlined below.

Tip: Refer to Step-by-Step Configuration of RFC1483 Routing with a Block of Static IP Addresses if you are not familiar with how to configure Cisco devices and would like to follow a step-by-step configuration.

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.

Tasks to Perform

- Design an IP addressing scheme for your private LAN.
- Configure an IP address and subnet mask on the Cisco DSL Router Ethernet interface.

- Configure the ATM interface (Asymmetric Digital Subscriber Line (ADSL) interface) of the Cisco DSL Router with an ATM permanent virtual circuit (PVC) and encapsulation.
- Configure each host PC with an IP address, subnet mask, default gateway, and Domain Name System (DNS) server(s).

For Dynamic Host Configuration Protocol (DHCP): Alternatively, if you want the Cisco DSL Router to assign your PC clients' dynamic IP addresses, configure each PC to obtain an IP address and DNS server(s) automatically via DHCP.

Note: When an ATM interface is configured with **ip unnumbered ethernet0**, Network Address Translation (NAT) configuration is not supported.

Configure

In this section, you are presented with the information to configure the features described in this document.

Note: Use the Command Lookup Tool (registered customers only) to find more information on the commands used in this document.

Configuration

Tip: Refer to Step-by-Step Configuration of RFC1483 Routing with a Block of Static IP Addresses if you are not familiar with how to configure Cisco devices and would like to follow a step-by-step configuration.

Cisco DSL Router with a Block of Static IP Addresses

```

!--- Comments contain explanations and additional information.

service timestamps debug datetime msec
service timestamps log datetime msec
ip subnet-zero
!

!--- For DHCP:

ip dhcp excluded-address <ip address of ethernet0>
ip dhcp pool <dhcp pool name>
  network <ip network address of ethernet0> <subnet mask>
  default-router <ip address of ethernet0>
  dns-server <ip address of dns server>
!
interface ethernet0
  no shut
  ip address <ip address> <subnet mask>
  no ip directed-broadcast
!
interface atm0
  no shut
  no ip address
  no ip directed-broadcast
  no atm ilmi-keepalive
!
interface atm0.1 point-to-point
  ip unnumbered ethernet0
  pvc <vpi/vci>
  encapsulation aal5snap

```

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

!
!
ip classless
ip route 0.0.0.0 0.0.0.0 <default gateway to isp>
ip route <default gateway to isp> 255.255.255.255 atm0.1
!
end
```

Verify

There is currently no verification procedure available for this configuration.

Troubleshoot

Refer to Troubleshooting RFC1483 Routing if your ADSL service does not work properly.

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

Related Information

- [RFC1483 Routing Implementation Options](#)
- [Cisco DSL Router Configuration and Troubleshooting Guide](#)
- [Technical Support & Documentation – Cisco Systems](#)

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