Configuring PPTP Through PAT to a Microsoft PPTP Server

Document ID: 12483

Contents

Introduction

Microsoft (MS) Point−to−Point Tunneling Protocol (PPTP) is used to enable remote users to connect back to their corporate network in a secured manner across the public Internet. You can allocate a single IP address to a remote location to conserve your public IP addresses. Then, you can allow multiple users to establish PPTP connections simultaneously to the same or to different locations. PPTP was added in Cisco IOS® Software Release 12.1(4)T.

For more information, refer to the NAT − Support for PPTP in an Overload (Port Address Translation) Configuration section in the Cisco IOS Software 12.1 T Early Deployment Release Series.

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 3600 Routers that run Cisco IOS Software Releases 12.1.5(9)T and 12.2.3
- All Windows Operating System platforms with PPTP native clients built−in
- MS Windows 2000 Advanced Server with a built−in PPTP server

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

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

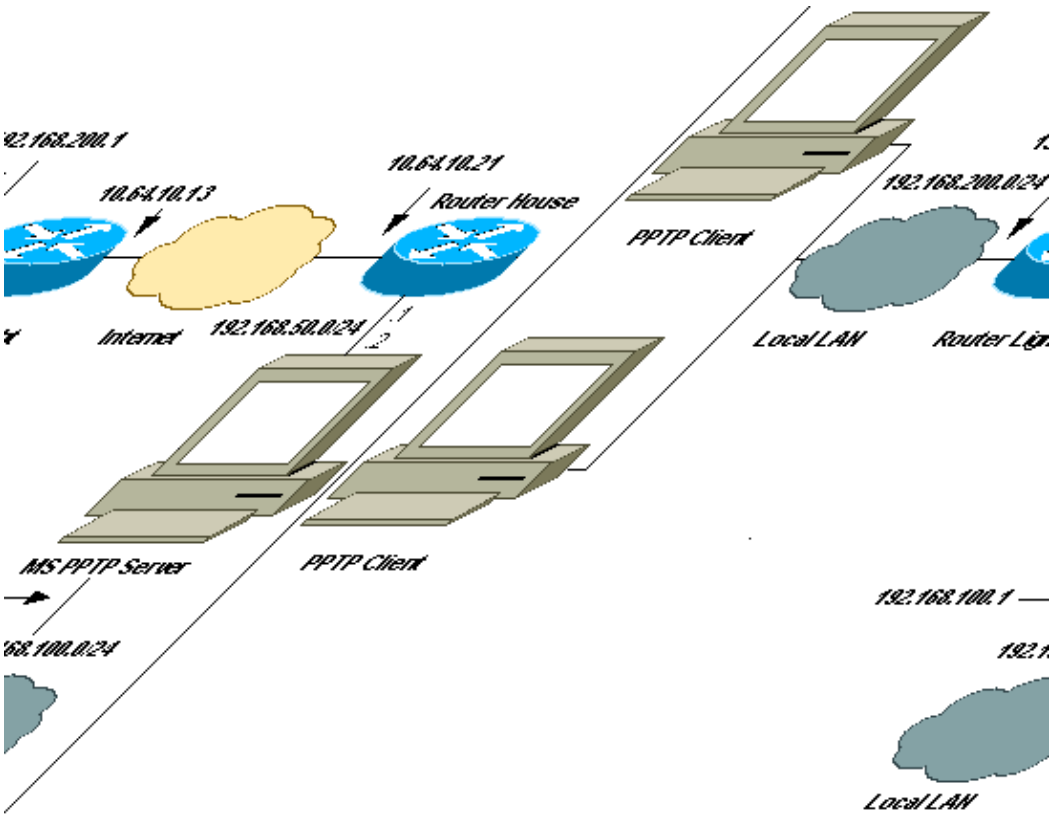
Configure

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.

Network Diagram

This document uses this network setup:



Configurations

This document uses these configurations:

- Router Light
- IP NAT Translation Table
- Router House
- IP NAT Translation Table

Router Light

`Current configuration : 1136 bytes`
`!`
`version 12.2`
`service timestamps debug upti`

```
service timestamps log uptime
no service password-encryption
!
hostname light
!
boot system tftp c3660-jk9o3s-mz.122-3.bin 255.255.255.255
!
ip subnet-zero
!
!
no ip domain-lookup
!
ip audit notify log
ip audit po max-events 100
ip ssh time-out 120
ip ssh authentication-retries 3
!
call rsvp-sync
cns event-service server
!
!
!
!
!
fax interface-type modem
mta receive maximum-recipients 0
!
controller E1 2/0
!
!
!
interface FastEthernet0/0
ip address 10.64.10.13 255.255.255.224

!--- Defines the interface as external for NAT.

ip nat outside
duplex auto
speed auto
!
interface FastEthernet0/1
ip address 192.168.200.1 255.255.255.0

!--- Defines the interface as internal for NAT.

ip nat inside
duplex auto
speed auto
!
interface Serial1/0
no ip address
shutdown
no fair-queue
!
interface Serial1/1
no ip address
shutdown
!
interface Serial1/2
no ip address
shutdown
!
interface Serial1/3
no ip address
shutdown
!
```

```
!--- Indicates that any packets received on the inside interface permitted
!--- by access list 101 share one public IP address (the address on Fa0/0).

ip nat inside source list 101 interface FastEthernet0/0 overload
ip classless
ip route 0.0.0.0 0.0.0.0 10.64.10.1
no ip http server
!
access-list 101 permit ip any any
!
!
dial-peer cor custom
!
!
!
!
!
line con 0
line aux 0
line vty 0 4
login
!
end
```

IP NAT Translation Table

```
light#show ip nat translations

Pro Inside global      Inside local          Outside local      Outside global
gre 10.64.10.13:50150  192.168.200.253:50150 10.64.10.21:50150  10.64.10.21:50150
gre 10.64.10.13:50151  192.168.200.254:50151 10.64.10.21:50151  10.64.10.21:50151
gre 10.64.10.13:0      192.168.200.254:0     10.64.10.21:0      10.64.10.21:0
gre 10.64.10.13:32768  192.168.200.253:32768 10.64.10.21:32768  10.64.10.21:32768
tcp 10.64.10.13:2643   192.168.200.253:2643  10.64.10.21:1723   10.64.10.21:1723
tcp 10.64.10.13:3546   192.168.200.254:3546  10.64.10.21:1723   10.64.10.21:1723
```

Router House

```
Building configuration...

Current configuration : 2281 bytes
!
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname house
!
enable password cisco
!
ip subnet-zero
!
!
!
fax interface-type modem
mta receive maximum-recipients 0
!
!
interface FastEthernet0/0
 ip address 10.64.10.21 255.255.255.224
```

```
!--- Defines the interface as external for NAT.

ip nat outside
 duplex auto
 speed auto
!
interface FastEthernet0/1
 ip address 192.168.50.1 255.255.255.0

!--- Defines the interface as internal for NAT.

ip nat inside
 duplex auto
 speed auto
!
!
interface FastEthernet4/0
 no ip address
 shutdown
 duplex auto
 speed auto
!

!--- Indicates that any packets received on the inside interface permitted by
!--- access list 101 share one public IP address (the address on Fa0/0).

ip nat inside source list 101 interface FastEthernet0/0 overload

!--- Static port translation for the Microsoft PPTP server on TCP port 1723
!--- share one public IP address (the address on Fa0/0).

ip nat inside source static tcp 192.168.50.2 1723 interface FastEthernet0/0 1723
ip classless
ip route 0.0.0.0 0.0.0.0 10.64.10.1
ip http server
ip pim bidir-enable
!
access-list 101 permit ip any any
!
!
snmp-server manager
!
call rsvp-sync
!
!
mgcp profile default
!
dial-peer cor custom
!
!
line con 0
line aux 0
line vty 0 4
password cisco
login
!
!
end
```

IP NAT Translation Table

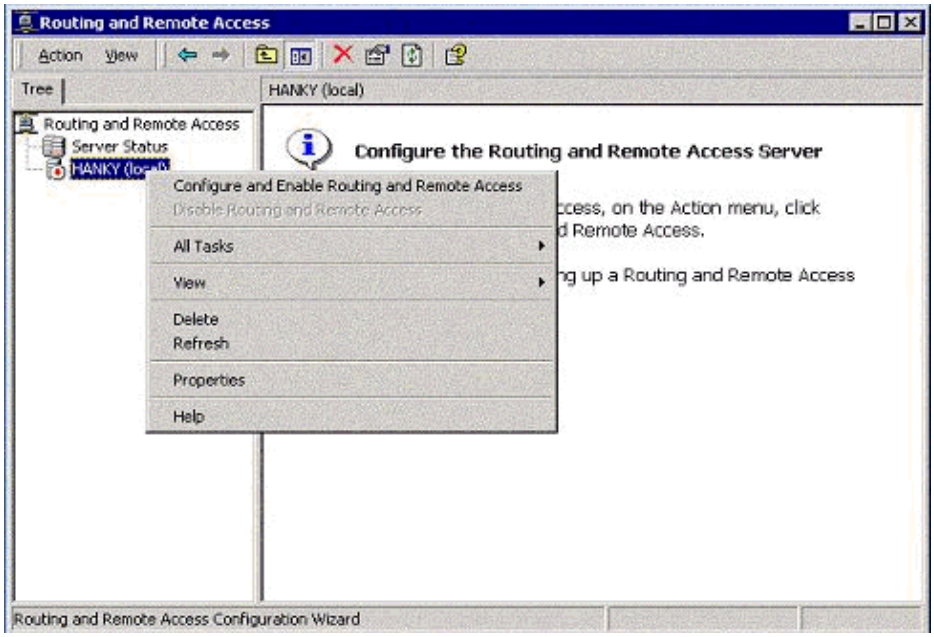
```
house#show ip nat translations

Pro Inside global      Inside local       Outside local      Outside global
gre 10.64.10.21:50150  192.168.50.2:50150 10.64.10.13:50150  10.64.10.13:50150
```

```
gre 10.64.10.21:50151  192.168.50.2:50151 10.64.10.13:50151  10.64.10.13:50151
gre 10.64.10.21:0      192.168.50.2:0     10.64.10.13:0      10.64.10.13:0
gre 10.64.10.21:32768  192.168.50.2:32768 10.64.10.13:32768  10.64.10.13:32768
tcp 10.64.10.21:1723   192.168.50.2:1723  10.64.10.13:2643   10.64.10.13:2643
tcp 10.64.10.21:1723   192.168.50.2:1723  ---                ---
tcp 10.64.10.21:80     192.168.50.2:80    ---                ---
tcp 10.64.10.21:1723   192.168.50.2:1723  10.64.10.13:3546   10.64.10.13:3546
```

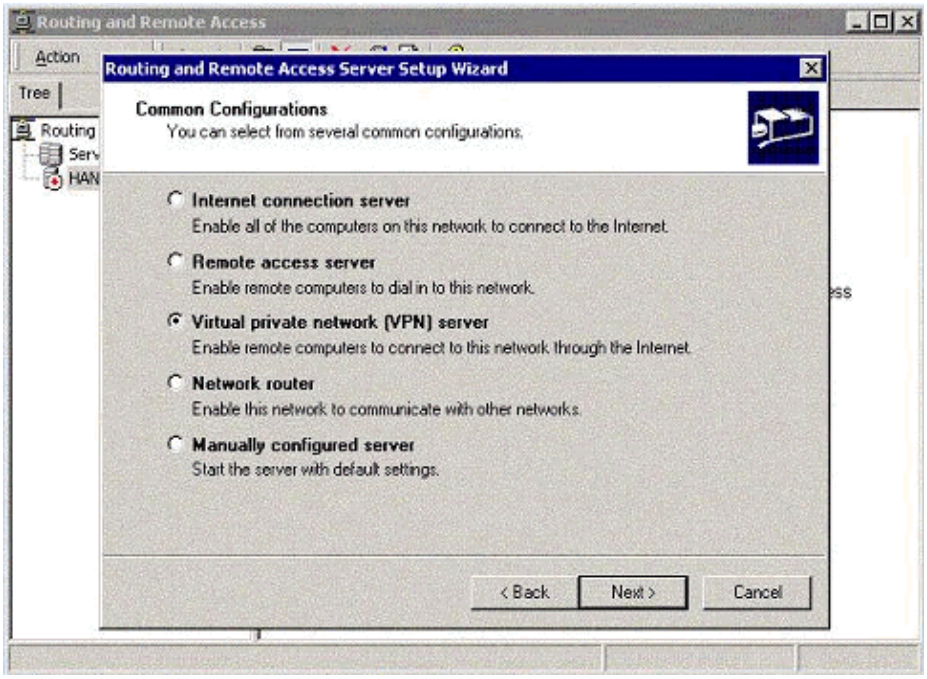
Configure the MS PPTP Server

Complete these steps in order to configure the MS PPTP Server:

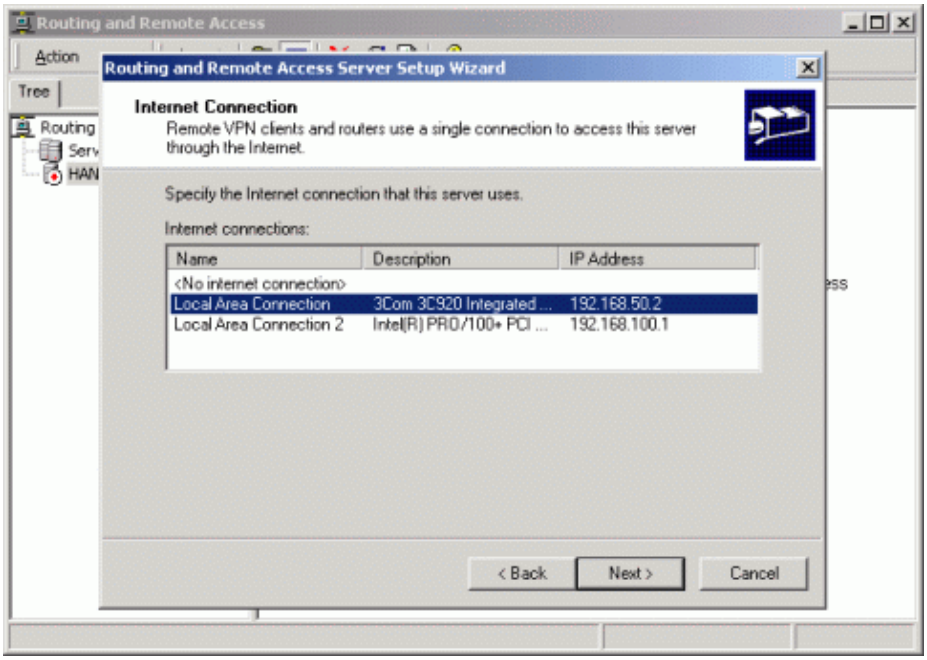
1. Go to **Routing and Remote Access** and choose **Configure and Enable Routing and Remote Access**.



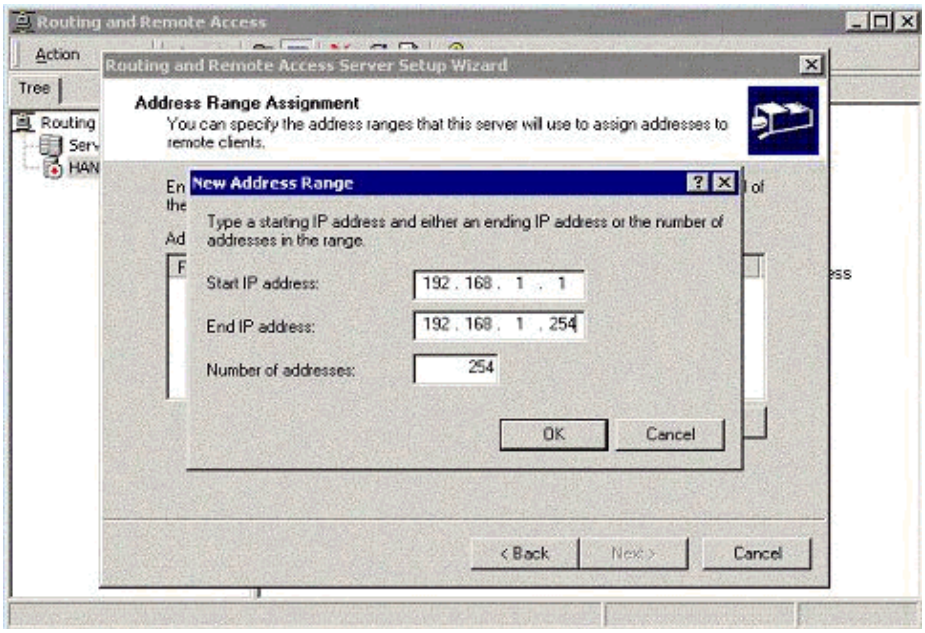
2. In the Routing and Remote Access Server Setup Wizard, choose **Virtual private network (VPN) server**.



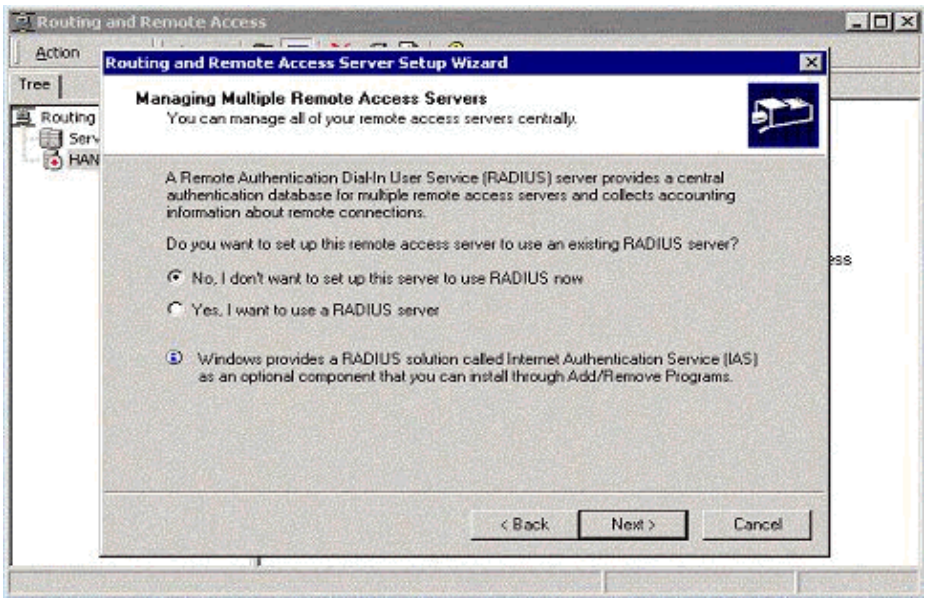
3. Define the outside and inside network IP addresses for the server network interface card (NIC).



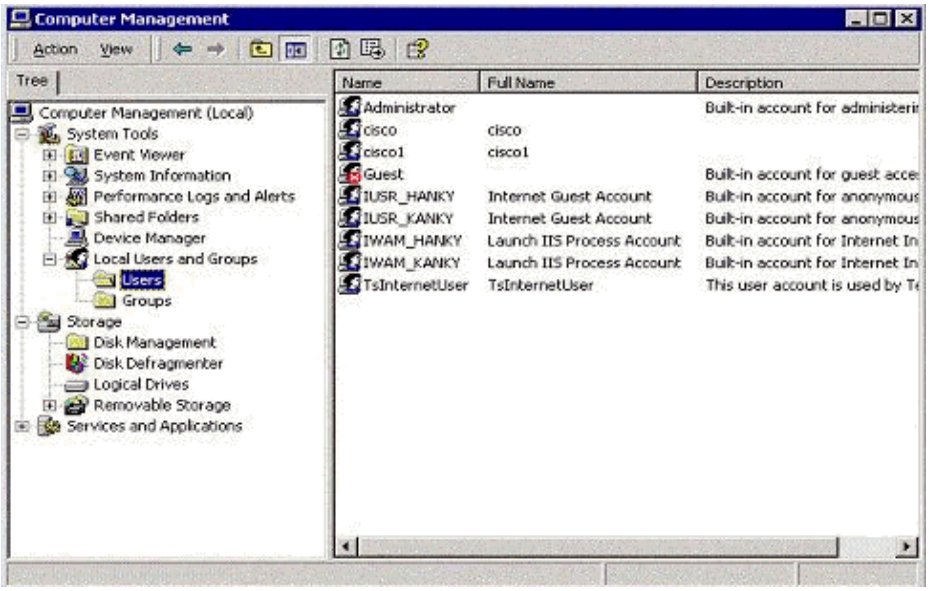
4. Assign an IP pool to the remote PPTP clients.



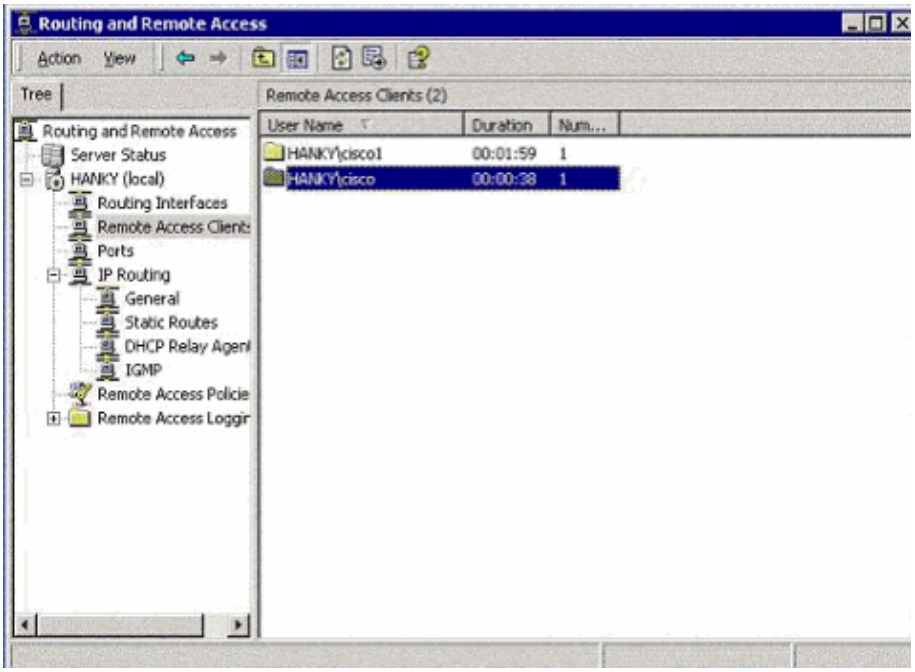
5. You can use the MS RADIUS authentication server or you can use local authentication.



6. Create the local user database for local authentication.



7. Two PPTP clients behind the Port Address Translation (PAT) router are connected to the MS PPTP server.



Verify

Use this section to confirm that your configuration works properly.

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

- **show ip nat translations** Shows the contents of the translation table.

Troubleshoot

This section provides information you can use to troubleshoot your configuration.

Troubleshooting Resources

- Microsoft's Windows 2000 Configuration of the Remote Access Server as a VPN Server

Related Information

- **RFC 2637: Point−to−Point Tunneling Protocol (PPTP)**
- **Technical Support & Documentation − Cisco Systems**

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