Setting a Virtual Private Network (VPN)

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What is a VPN?

If we desire remote access to a server through an external connection such as joining our business network from our laptop at home, we will want to set up a VPN.

If we already setup the computer as a Domain Controller, the Routing and Remote Access Server role is already loaded.

The next few slides will show how to install the RRAS role for those who do not have it.



Configure the Server Wizard

Now to setup the RRAS server, we choose the Configure Your Server Wizard . The first window in the procedure will appear on the graphical display and we select the Next command button to continue.

Configure Your Server Wizard		×
	Welcome to the Configure Your Server Wizard	
1/2	This wizard helps you assign roles to this server. You determine the role of a server based on the tasks, such as sharing documents, sharing printers, or hosting a Web site, you want the server to perform.	
Ve	You can also use this wizard to remove roles that you previously added to this server.	
E	<u>Read about server roles</u> To continue, click Next.	
	< Back [Next >] Cancel Help	

Preliminary Steps

We are prompted to have the Windows Server CD available to load extra files and to have the necessary Network Interface Cards, cables and Internet connections to complete the task. When we are ready, we should press the Next command button.

Configure Your Server Wizard

Preliminary Steps

You can ensure that you successfully configure your server by completing the following steps before continuing.



Before continuing, verify that the following steps have been completed.

- Install all modems and network cards.
- Attach all necessary cables.
- If you plan to use this server for Internet connectivity, connect to the Internet now.
- Turn on all peripherals, such as printers and external drives.
- Have your Windows Server 2003 Setup CD available, or know your network installation path.

When you click Next, the wizard will search for network connections.

< <u>B</u> ack	(<u>N</u> ext >	Cancel	Help

Configure your Server Wizard

In most cases, we will choose a custom configuration. A typical configuration will have us install Active Directory (domain controller), DNS role, DHCP role and activate a security firewall.

We will opt for custom configuration and select the Next button.

Configure Your Server Wizard

Configuration Options

You can add a common set of roles to this server, or you can customize this server by specifying the roles to add or remove.



Configure this server using:

O <u>Typical configuration for a first server</u>

Simplify the setup of a new network by adding a common set of roles for a first server. This option sets up this server as a domain controller by installing the Active Directory directory service; installs DNS server and DHCP server (if required) for IP address management; configures network routing; and activates a security firewall.

Ocustom configuration

Customize this server by adding the roles, such as file server, print server, or application server, that you want it to perform. You can also use this option to remove existing roles from this server.

< <u>B</u>ack <u>N</u>ext > Cancel Help

Select Remote Access Server

We will pick the Remote Access / VPN Server function and we then push the Next button.

Configure Your Server Wizard

Server Role

You can set up this server to perform one or more specific roles. If you want to add more than one role to this server, you can run this wizard again.



Select a role. If the role has not been added, you can add it. If it has already been added, you can remove it. If the role you want to add or remove is not listed, open <u>Add or Remove Programs</u>.

Server Role	Configured
File Server	Yes
SharePoint Services	No
Print Server	Yes
Application server (IIS, ASP.NET)	No
Mail server (POP3, SMTP)	No
Terminal server	No
Remote access / VPN server	No
Domain Controller (Active Directory)	No
DNS server	Yes
DHCP server	Yes
Streaming media server	No
WINS server	Yes

Remote access / VPN server

Remote access/VPN servers enable remote clients to connect to a network through either a dial-up connection or a secure Virtual Private Network (VPN) connection. They also provide network address translation, which enables all of the computers on a small network to share a single connection to the Internet.

Read about remote access/VPN servers

View the Configure Your Server log.

Cancel

< <u>B</u>ack

Next >

Help

Install RRAS Server and New Scope

Next, a window shows the summary of selections. We go for the Next button to continue.

onfigure Your Server Wizard	×
Summary of Selections View and confirm the options you have selected.	No.
Summary:	
Run the Routing and Remote Access Server Setup Wizard to set up routing and VPN	
To change your selections, click Back. To continue setting up this role, click Next.	
< <u>B</u> ack Cancel	Help

Routing and Remote Access Server Setup Wizard

We now are entering the Routing and Remote Access Server Setup Wizard . We press Next to continue.

Routing and Remote Access Server Setup Wizard			
Routing and Remote Access	Welcome to the Routing and Remote Access Server Setup Wizard This wizard helps you set up your server so that you can connect to other networks and allow connections from remote clients. To continue, click Next.		
	< <u>B</u> ack <u>Next</u> > Cancel		

Configuration of RRAS

This window gives us five unique roles for the RRAS setup. The first is a dial-up or dedicated connection to the server. The next is Network Address Translation which opens the Internet to internal clients. The next is VPN and NAT, which is our choose. The fourth option is making a connection to a branch office and the last is custom configuration.

Routing and Remote Access Server Setup Wizard

Configuration

You can enable any of the following combinations of services, or you can customize this server.



C <u>Remote access</u> (dial-up or VPN)

Allow remote clients to connect to this server through either a dial-up connection or a secure Virtual Private Network (VPN) Internet connection.

O Network address translation (NAT)

Allow internal clients to connect to the Internet using one public IP address.

- Virtual Private Network (VPN) access and NAT Allow remote clients to connect to this server through the Internet and local clients to connect to the Internet using a single public IP address.
- Secure connection between two private networks Connect this network to a remote network, such as a branch office.
- C Custom configuration

Select any combination of the features available in Routing and Remote Access.

For more information about these options, see Routing and Remote Access Help.

< <u>B</u>ack

Next >

Cancel

VPN Connection

We show what Local Area Connection connects to the Internet.

Routing and Remote Access Server Setup Wizard

VPN Connection

To enable VPN clients to connect to this server, at least one network interface must be connected to the Internet.



Select the network interface that connects this server to the Internet.

Network interfaces:

Internet Intel(R) PRO/100 M Net 192.168.10.5 Local Area Connection 3Com EtherLink XL 10/ (DHCP)	
Local Area Connection 3Com EtherLink XL 10/ (DHCP)	
Enable security on the selected interface by setting up Basic Firewall. Basic Firewall prevents unauthorized users from gaining access to this server throug the Internet.	h
For more information about network interfaces, see <u>Routing and Remote Access Help</u> .	
< <u>B</u> ack <u>N</u> ext > Cance	1

IP Address Assignment

We suggest that we use a specific range of IP addresses to connect to the DHCP server. Otherwise, we can automatically assign IP addresses to external clients from the full range available.

Routing and Remote Access Server Setup Wizard

IP Address Assignment

You can select the method for assigning IP addresses to remote clients.



How do you want IP addresses to be assigned to remote clients?

O Automatically

If you use a DHCP server to assign addresses, confirm that it is configured properly. If you do not use a DHCP server, this server will generate the addresses.

Erom a specified range of addresses

< <u>B</u> ack	. <u>N</u> ext>	Cancel

Address Range Assignment

In these windows, we show the range of IP addresses that can connect to the server.

Routing and Remote Access Server Setup Wizard

Address Range Assignment

You can specify the address ranges that this server will use to assign addresses to remote clients.

Enter the address ranges (static pools) that you want to use. This server will assign all of the addresses in the first range before continuing to the next.

Address ranges:

				<u> </u>
	From	To	Number	[
	192.168.15.101	192.168.15.150	50	
ew Address Range		? ×		
Type a starting IP address a addresses in the range	and either an ending IP address or the nur	nber of		
<u>S</u> tart IP address:	192.168.15.101	Ne <u>w</u>	<u>E</u> dit <u>D</u> elete	
End IP address:	192.168.15.150			
Number of addresses:	50			
	OK Can	< <u>B</u> ac	k <u>N</u> ext> Car	ncel

Authenticate Connection

We will authenticate when we logon to the RRAS server when we choose the no option.

Routing and Remote Access Server Setup Wizard

Managing Multiple Remote Access Servers

Connection requests can be authenticated locally or forwarded to a Remote Authentication Dial-In User Service (RADIUS) server for authentication.



Although Routing and Remote Access can authenticate connection requests, large networks that include multiple remote access servers often use a RADIUS server for central authentication.

If you are using a RADIUS server on your network, you can set up this server to forward authentication requests to the RADIUS server.

Do you want to set up this server to work with a RADIUS server?

- No, use Routing and Remote Access to authenticate connection requests
- Yes, set up this server to work with a RADIUS server

< <u>B</u> ack	<u>N</u> ext >	Cancel

Completing the RRAS Setup Wizard

We are now finished with the Routing and Remote Access setup wizard. We should press the finish button and then setup the individual accounts for VPN connections.



Remote Access / VPN Server

This server is now a VPN server.



Configure Your Server Wizard

This Server is Now a Remote Access/VPN Server

You have successfully set up this server as a remote access/VPN server. To add or remove another role, run the Configure Your Server Wizard again.

View the next steps for this role

For a record of your changes, see the <u>Configure Your Server log</u>. To close this wizard, click Finish.

Finish



Cancel

Help

Х

RRAS Console

To open the RRAS console. We go to administrative tools and double click on Remote Access . Here, we can see the server remote connection operating,

🚊 Routing and Remote Access					
<u>File Action View H</u> elp					
Routing and Remote Access	Network Interfaces				
	LAN and Demand Dial Int 💎	Туре	Status	Connection State	Device Name
BRADFORD-1WGFOS (local)	🛱 Loopback	Loopback	Enabled	Connected	
Remote Access Clients (0)	Local Area Connection	Dedicated	Enabled	Unreachable	3Com EtherLink XL 10/100 PCI T
Ports	Internet	Dedicated	Enabled	Connected	Intel(R) PRO/100 M Network Co
🗄 👜 IP Routing	🗊 Internal	Internal	Enabled	Connected	
E 🦉 Remote Access Policies					
	•				I
	, , ,				

User Configuration

In a user account, we choose the Dial-in tab and we opt for Allow Access and No Callback.

John Smith Properties		? ×
General Address Account Profile Remote control Terminal Ser Member Of Dial-in E	e Telephones vices Profile nvironment	Organization COM+ Sessions
Remote Access Permission (Dial-in or VP) Allow access Deny access	N)	
 ✓ Control decess through Hendre Acces Callback Options O Callback O Set by Caller (Routing and Remote Acces) C Always Callback to: 	ccess Service only)	
 Assign a Static IP Address Apply Static <u>R</u>outes Define routes to enable for this Dial-in connection. 	Static Ro <u>u</u>	tes
OK	Cancel	Apply