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Preston Gralla

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BIG BOOK OF WINDOWS HACKS

by Preston Gralla

HACK 123: Make a Remote Connection to Windows Home Server Over the Internet

V **XP** It's not as easy as Microsoft says to get access to your files on Windows Home Server when you're away from home. Here's how to avoid the gotchas and make a connection every time.

For those who travel, one of the more useful features of Windows Home Server is that you can connect to it over the Internet. Make the connection, and you'll have full access to your files.

Or at least, that's the theory. In practice, things are much more difficult than that. Several problems complicate your ability to connect remotely over the Internet to your home server:

- The public IP address of your home server may often change. ISPs hand out dynamic IP addresses, and so your IP address one day may not be the same as your IP address the next day. So even if you copy down the IP address before you leave, that address may change when you get to another location, even only hours later.
- The nature of home routers is that your server doesn't even have a real public IP address, it only has one inside your network. So you need to figure out a way to connect to your server directly.

However, as you'll see, with a little bit of configuring, tweaking, and hacking, you'll be able to make the connection.

Understanding IP Addresses and Windows Home Server

Before you start, you'll need to understand a little about your home router, home server, and their IP addresses. Your router is assigned an IP address by your ISP, for example, 66.32.43.98. Think of that as an external IP address—the IP address that the Internet sees. This IP address is assigned dynamically, and so will change over time; it may be different from one day to another.

Your router uses Network Address Translation that allows multiple computers to access the Internet over a single connection, using the external IP address. With NAT, the single, external IP address is shared among all the computers on the network. But each computer also has its own internal IP address, invisible to the Internet.

With the example IP address just given, each computer looks (to the Internet) as if it has the address of 66.32.43.98, but internally they have different IP addresses, such as 192.168.1.100, 192.168.1.101, and so on. The router has a built-in Dynamic Host Configuration Protocol server that assigns the internal IP address to each PC. These internal IP addresses allow the PCs to communicate with each other and to connect to the Internet.

Setting Up the Connection

With that as background, let's begin. In order to make a remote connection, you need to enable your account to connect remotely. In the Windows Server Home Console, click User Accounts, then right-click the account to which you want to grant remote access, and select Properties. Click the box next to "Enable remote access for this user", then click OK.

Now you need to turn on remote access for Windows Home Server. In the Windows Server Home Console, select Settings→Remote Access. You'll see a screen like the one in Figure 9-20.

If the Web Site Connectivity button is not already turned on, click Turn On. Then, in the Router section, click the Setup button. A screen will appear telling you that Windows Home Server is going to configure port forwarding for your router. Click OK. Depending on your router, it may or may not

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QUICK HACK ✕

LAUNCH PROGRAMS WITH KEYBOARD SHORTCUTS

The fastest way to launch your favorite application in Windows is via keyboard shortcuts. They're easy to build. On the Start menu, right-click the application for which you want to create a shortcut, and select Properties. In the Properties dialog box, put your cursor in the Shortcut Key fields, and press the hotkey sequence you'd like to use for the shortcut, such as Ctrl-Alt-E for Excel. Click OK, and you're done.

Figure 9-20.
Enable remote access to your Windows Home Server from here

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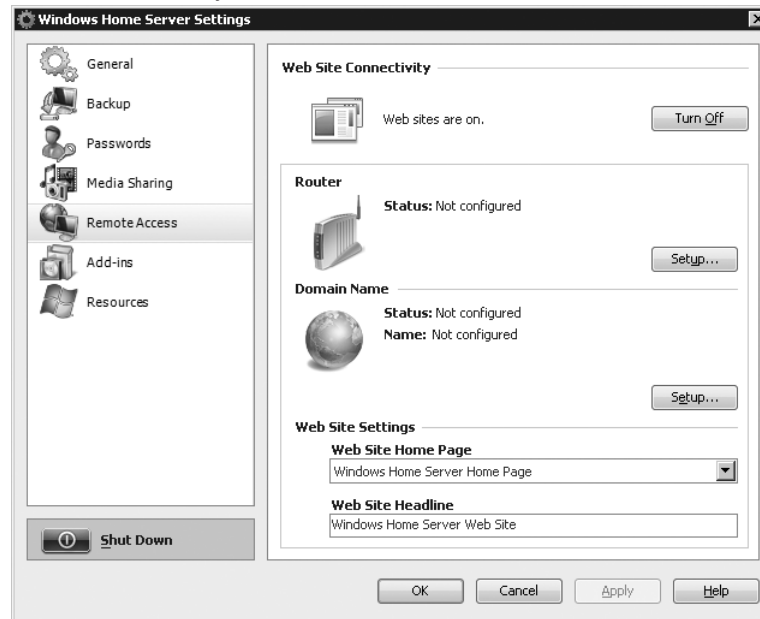
work. If it doesn't, you'll get a warning screen. Don't despair, though, because as you'll see later in this hack, in the "Hacking the Hack" section, you can manually configure port forwarding.

✉ Windows Home Server can only automatically configure your router if it uses UPnP (Universal Plug and Play). If you get an error message saying that your router does not support UPnP, check to see if in fact your router does support it—many routers turn it off for security reasons. Check your router's documentation for details. In the Linksys WRT54GX4, log in to your router, then click Administrator. Scroll down to the UPnP section, select Enable, then click Save Settings. Now go back into the Router section on Windows Home Server and click the Setup button. It should be able to do the automatic configuration now. If it doesn't, you'll need to manually configure port forwarding. See "Hacking the Hack" for details.

Next, click Setup in the Domain Name section. A wizard launches that walks you through the process of creating a domain name that you'll use to connect to your home server over the Internet. You'll need a Windows Live ID in order to complete the wizard, so if you don't have one, you'll get one as part of the process by clicking Get your Windows Live ID.

After you sign into Windows Live and accept a privacy statement, click Next. You'll choose a domain name, as you can see in Figure 9-21. You'll use this domain name to connect to your home server via your browser. The domain will end in homeserver.com, such as `thegrallafamilyhomeserver.homeserver.com`. Click Confirm after you select a name. If it's not already taken, you'll be able to use it. If it is taken, you'll have to choose a new one. Then click Finish, and then Done. Back on the Remote Access screen, you should see green check boxes next to the Router and Domain Name sections. Click OK.

Making the Connection

Now you're ready to make the connection. In your browser, type https://, followed by your domain name, like this: https://thegrallafamilyhomeserver.homeserver.com. If you're using Internet Explorer 7, you may get an error message, saying that there is a problem with the Web site's security certificate. Ignore that message and click "Continue to this website (not recommended)". You'll come to a generic Web logon page, like that shown in Figure 9-22. Click Log On, and type in your user name and password.

Figure 9-21
Choosing a domain name
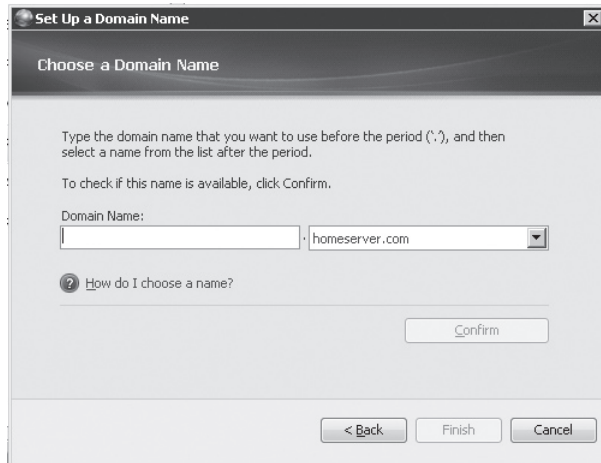
📝 Remember, you can only connect to your home server remotely over the Internet if you log in using an account for which you've set up a strong password, as defined by Windows Home Server. That means the password has to be at least seven characters long, and contain at least three of these character categories: uppercase letters, lowercase letters, numbers, and symbols such as !, @, and #.

After you log in, click the Computers tab in order to connect to your home server via the Windows Home Server Console, and get remote access to any computer connected to your network (Figure 9-23). You'll get a warning in Internet Explorer that the site wants to run the Terminal Services ActiveX Client. Install it by clicking the warning and telling Internet Explorer to run the control.

You're still not quite ready to connect. You first have to add your home server domain to the Trusted Sites zone in Internet Explorer. In Internet Explorer, select Tools→Internet Options→Security, then click Trusted Sites. Click the Sites button, then in the screen that appears, type in the domain of your Windows Home Server, for example, https://grallafamilyhomeserver.homeserver.com. Click Add, Close, and then OK.

Now back on the Computers tab, click Connect to your Home Server. From the screen that appears, type in your password and then OK. A screen will appear asking if you trust the computer to which you are connecting. Click Yes. You'll now connect to your home server via the Web. The screen will look and work exactly as if you were using the Windows Home Server Console via a client, not the Web, as you can see in Figure 9-24.

You've now made the connection, and can use your home server as if you were on the internal network, and gain access to shared folders, and more. In fact, you can take command of any computer on your network **[Hack #130]** as well.

Hacking the Hack

As I've explained earlier in this hack, the Windows Home Server Console may not be able to automatically configure your router for port forwarding. If that's the case, you'll have to configure it yourself. When you configure it yourself, you forward all traffic from specific ports to the internal network IP address of your home server (such as 192.168.1.1). When I refer to ports here, I'm not talking about a physical connection on your PC. Instead, a port is a virtual connection used by network applications.

You're going to configure your home router to route all traffic from the ports that Windows Home Server uses—80, 443, and 4125—to go directly to your own home server. That way, whenever a connection comes in to one of those ports, it will connect to your server. How you do it varies from
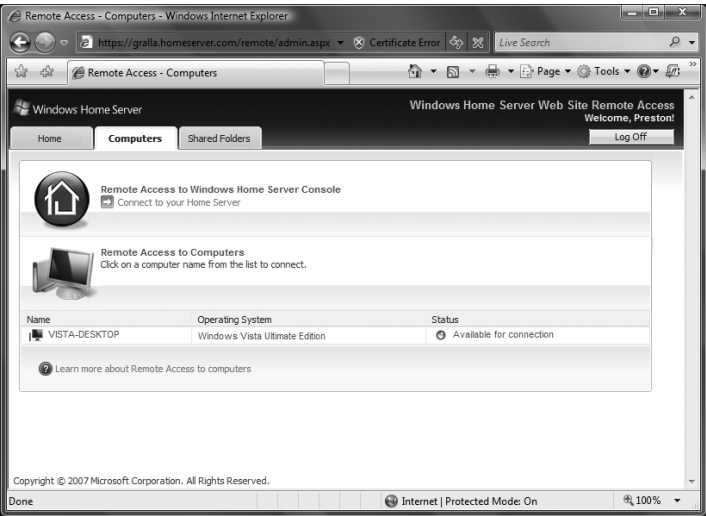
Figure 9-22.
Click Log On, then type in your user name and password. Remember that
you need to use a strong password if you want to get to your Web site remotely.

Figure 9-23.
The Computers tab lets you run the Windows Home Server
Console remotely, or control computers connected to your network

router to router, so check your model's documentation. In this example, I'll show you how to do it for
the Linksys router model WRT54GX4.

First, find out the internal IP address of your home server. On any PC on your network, open a
command prompt, type net view, and press Enter. After you do, you'll see something like the
following:

```
C:\Users\Preston>net view
Server Name          Remark
-------------------------------------------------------------------------
\\PRESTONSERVER
\\VISTA-DESKTOP
\\VISTA-LAPTOP
The command completed successfully.
```

Figure 9-24.

Congratulations—you've logged into your Windows Home Server
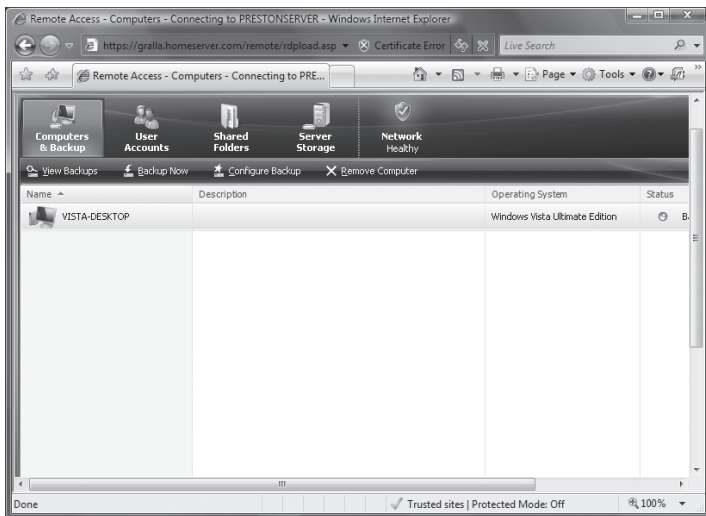
Look for the name of your Windows Home Server, the name you gave it when you first set it up, or that came as part of the default setup. In this instance, it's PRESTONSERVER.

Now at the command line issue the ping command, followed by the name of your home server, like this: ping PRESTONSERVER

The results will look something like this:

```
C:\Users\Preston>ping PRESTONSERVER

Pinging PRESTONSERVER [192.168.1.103] with 32 bytes of data:

Reply from 192.168.1.103: bytes=32 time<1ms TTL=128
Reply from 192.168.1.103: bytes=32 time<1ms TTL=128
Reply from 192.168.1.103: bytes=32 time<1ms TTL=128
Reply from 192.168.1.103: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.103:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Note the number after Reply from. That's your router's IP address on your network. Write it down; you'll need it in order to configure port forwarding. In this case, it's 192.168.1.103.

If you have Windows Vista on any of the PCs connected to your network, there's an easy way to find out the IP address of your Windows Home Server. First select Control Panel→Network. A list of all devices on your network appears. Right-click your Windows Home Server and select Properties. At the bottom of the screen, in the Troubleshooting Information section, you'll see the server's IP address. Windows XP doesn't have this capability—when you right-click the server from My Network Places, it doesn't display the IP address.

Now you'll need to tell your router to forward all connections from ports 80, 443, and 4125 to the IP address 192.168.1.103. How you do this varies from router to router. In this example, I use a Linksys router, model WRT54GX4 Check your router's documentation for details on how to do it.

QUICK HACK ✕

RUN INCOMPATIBLE PROGRAMS IN WINDOWS VISTA

Got a program that won't run in Windows Vista? Try this trick. Right-click the program's executable file, and select Properties. Click the Compatibility tab, and select Run This Program in Compatibility Mode. From the drop-down list that appears, choose the operating system you used before upgrading to Vista (or choose the operating system on which the program was designed to run). If you need to, select the option to run the program as an administrator. Click OK, and the program may run correctly now.

Log into your administrator's screen by going to http://192.168.1.1 (the address may be different depending on your router model and network configuration) in your browser, and typing in your user name and password. (The default is no user name, and admin as the password, but you should change this so that other people can't modify your router's configuration.) Choose Applications & Gaming→Port Range Forwarding. Fill in the form you see (see Figure 5-4 **[Hack #68]**). For the application, name, use something like Home Server; it doesn't really matter what name you give it. For the first line, in both Start and End, type in 80, and select BOTH from the drop-down list. For IP address, type in the last number of whatever IP address your home server has—in this example, it's 103. Check the Enable box. Do the same for two more lines: one for port 443, and one for port 4125. Click Save Settings. You're done. You can now continue with the rest of the instructions for setting up the remote connection and logging in, as outlined earlier in this hack.

You've now made the connection, and can use your home server as if you were on the internal network, and gain access to shared folders, and more. In fact, as you'll see in the next hack, you can take command of any computer on your network as well.

> If the internal IP address of your Windows Home Server changes for any reason, you'll have to go through these steps again, using the new IP address. Why would the IP address change? If you restart your router, for example, the IP address will change. To get around this problem, you might want to assign your Windows Home Server a static IP address. For details on how to assign a static IP address to a computer, see your router's documentation.

See Also

- "Give the World Access to a Server or PC Behind your Home Router" **[Hack #68]**
- "Give Your Home Server a Hostname" **[Hack #69]**
- "Control Another Windows XP PC with Remote Access" **[Hack #73]**
- "Control Another Windows Vista PC with Remote Access" **[Hack #74]**