Integrating Dynamic DNS and IPv4 DHCP

DHCP integration with Dynamic DNS is a simple concept but powerful in action. By setting up this integration, you can pass addresses to DHCP clients while still maintaining the integrity of your DNS services.

The DNS server can be updated in two ways. One way is for the DHCP client to tell the DNS server its address. Another way is for the DHCP server to tell the DNS server when it registers a new client.

Neither of these updates will take place, however, unless you configure the DNS server to use Dynamic DNS. You can make this change in two ways:

- If you change it at the scope level, it will apply only to the scope.
- If you change it at the server level, it will apply to all scopes and superscopes served by the server.

Which of these options you choose depends

on how widely you want to support Dynamic DNS; most of the sites I visit have enabled DNS updates at the server level.
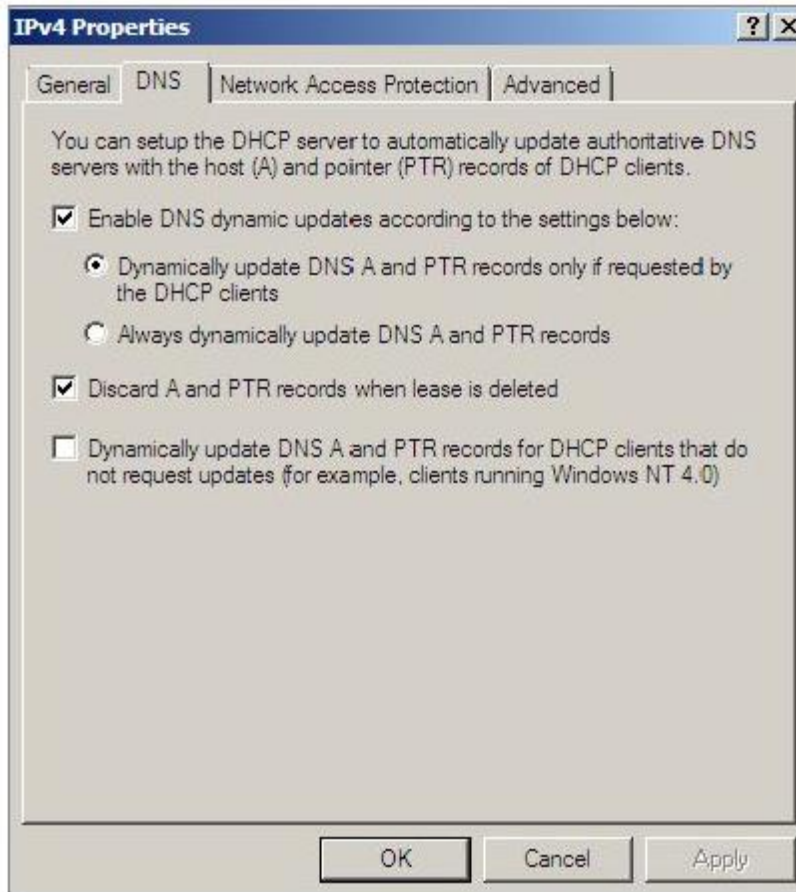
> **NOTE**
>
> You also have to instruct the DNS server to accept Dynamic DNS updates. For more on how to do so, see Chapter 2, "Domain Name System."

To update the settings at either the server or scope level, you need to open the scope or server properties by right-clicking the appropriate object and choosing Properties. The DNS tab of the Properties dialog box (see Figure 10.27) includes the following options:

FIGURE 10.27 DNS tab of the scope's IPv4 Properties dialog box

IPv4 Properties

General | DNS | Network Access Protection | Advanced

You can setup the DHCP server to automatically update authoritative DNS servers with the host (A) and pointer (PTR) records of DHCP clients.

☑ Enable DNS dynamic updates according to the settings below:

- ⦿ Dynamically update DNS A and PTR records only if requested by the DHCP clients
- ○ Always dynamically update DNS A and PTR records

☑ Discard A and PTR records when lease is deleted

☐ Dynamically update DNS A and PTR records for DHCP clients that do not request updates (for example, clients running Windows NT 4.0)

OK | Cancel | Apply

Enable DNS Dynamic Updates According To The Settings Below This check box controls whether this DHCP server

will attempt to register lease information with a DNS server. It must be checked to enable Dynamic DNS.

Dynamically Update DNS A And PTR Records Only If Requested By The DHCP Clients This radio button (which is on by default) tells the DHCP server to register the update only if the DHCP client asks for DNS registration. When this button is active, DHCP clients that aren't hip to DDNS won't have their DNS records updated. However, Windows 2000, XP, Vista, Windows 7, Windows 8, Server 2003, Server 2008 / 2008 R2, and Server 2012 DHCP clients are smart enough to ask for the updates.

Always Dynamically Update DNS A And PTR Records This radio button forces the DHCP server to register any client to which it issues a lease. This setting

may add DNS registrations for DHCP-enabled devices that don't really need them, such as print servers. However, it allows other clients (such as Mac OS, Windows NT, and Linux machines) to have their DNS information automatically updated.

Discard A And PTR Records When Lease Is Deleted This check box has a long name but a simple function. When a DHCP lease expires, what should happen to the DNS registration? Obviously, it would be nice if the DNS record associated with a lease vanished when the lease expired. When this check box is checked (as it is by default), that's exactly what happens. If you uncheck this box, your DNS will contain entries for expired leases that are no longer valid. When a particular IP address is reissued on a new lease, the DNS will be updated, but in between leases you'll have incorrect data in your DNS—something

that's always best to avoid.

Dynamically Update DNS A And PTR Records For DHCP Clients That Do Not Request Updates This check box lets you handle these older clients graciously by making the updates using a separate mechanism.

In Exercise 10.8, you will enable a scope to participate in Dynamic DNS updates.

EXERCISE 10.8

Enabling DHCP-DNS Integration

1. Open the DHCP snap-in by selecting Administrative Tools ➢ DHCP.

2. Right-click the IPv4 item, and select Properties.

3. The Server Properties dialog box appears. Click the DNS tab.

4. Verify that the check box labeled Enable DNS Dynamic Updates According To The Settings Below is checked, and verify that the radio button labeled Dynamically Update DNS A And PTR Records Only If Requested By The DHCP Clients is selected.

5. Verify that the check box labeled Discard A And PTR Records When Lease Is Deleted is checked. If not, then check it.

6. Click the OK button to apply your changes and close the Server Properties dialog box.