



Server
Enterprise

Using Windows NT Server Tools

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About Chapter 14

This chapter explores how to manage Windows NT Server computers remotely on your network using Windows NT Server tools.

First, the chapter describes the utilities that make up Windows NT Server tools, and then it explains how to install Windows NT Server tools on Windows 95 computers as well as on Windows NT Workstation computers.

Next, the chapter discusses how a user at a client computer can use Windows NT Server tools to manage an NT Server computer remotely on the network.

The chapter wraps up with an illustrative example of an Administrator who uses Windows NT Server tools (installed on a Windows NT Workstation client computer) to remotely promote a backup domain controller to a primary domain controller.

This chapter includes a comprehensive hands-on lab. In this lab, you install Windows NT Server tools and use NT Server tools to administer a remote server.

Chapter 14 is optional if you're preparing for only the Workstation exam, but essential if you're preparing for either the Server or Enterprise exams. This chapter maps to the "Administer remote servers from various types of client computers" objective in the Managing Resources section in the Server and Enterprise exams' objectives.

Windows NT Server Tools

Windows NT Server tools are a collection of Windows NT Server utilities that, when installed on a Windows 95 or Windows NT Workstation client computer, make it possible for a user at the client computer to remotely manage an NT Server computer on the network.

The NT Server tools make remote administration of an NT Server computer practical and convenient for many administrators.

Windows NT Server tools are also referred to as *client-based network administration tools*.

Because the NT Server tools, and their installation, differ on Windows 95 and Windows NT Workstation computers, they are discussed separately in the following sections.

NT Server Tools for Windows 95 Computers

The NT Server tools that can be installed on Windows 95 client computers are: *User Manager for Domains*, *Server Manager*, *Event Viewer*, and *security extensions for Windows Explorer* to manage file and printer security on a remote Windows NT Server. These tools are Windows 95 versions of the same tools that ship with Windows NT Server and that are discussed throughout this book.

Table 14-1 shows the NT Server tools that can be installed on Windows 95 client computers and the basic functions that they enable an administrator to perform remotely from the client computer.

TABLE 14-1 NT SERVER TOOLS FOR WINDOWS 95 CLIENT COMPUTERS

<i>NT SERVER TOOL</i>	<i>FUNCTIONALITY</i>
User Manager for Domains	Enables remote management of users, groups, domain security policy, and trust relationships on a Windows NT Server computer.

continued

TABLE 14-1 (continued)

<i>NT SERVER TOOL</i>	<i>FUNCTIONALITY</i>
Server Manager	Enables remote management of shared folders, remote starting and stopping of services, remote management of Directory Replication, remote viewing of which users are accessing shared resources, and remote disconnection of users from shared resources on a Windows NT Server computer.
Event Viewer	Enables remote viewing, archiving, and management of the system, security, and application logs in Event Viewer on a Windows NT Server computer.
Security tab extensions for Windows Explorer	This feature adds a Security tab to the "file," "folder," or "printer" Properties dialog boxes (tabs that normally exist on NT Server but aren't present on Windows 95 computers); Enables remote management of file, folder, and printer security on a Windows NT Server computer.

Before you install and run Windows NT Server tools on a Windows 95 client computer, ensure that the computer has the following minimum required hardware and software installed:

Hardware required:

- 486DX/33 processor
- 8MB of RAM
- 3MB of available hard disk space on the system partition

Software required:

- Windows 95
- Client for Microsoft Networks

Installing NT Server tools on a Windows 95 computer

In addition to the minimum required hardware and software, installing Windows NT Server tools on a Windows 95 client computer requires either a CD-ROM drive on the client computer *and* the Windows NT Server 4.0 compact disc, or access to a shared folder containing a copy of the NT Server tools on an available network server.

You can't pick and choose which NT Server tools to install—they are all installed as a single package. The next section describes how to install NT Server tools on a Windows 95 client computer.

TO INSTALL WINDOWS NT SERVER TOOLS ON A WINDOWS 95 CLIENT COMPUTER (USING A CD-ROM DRIVE), FOLLOW THESE STEPS:

1. Boot the client computer to Windows 95. Place the Windows NT Server 4.0 compact disc in the computer's CD-ROM drive.
2. Windows 95 automatically starts the CD-ROM device. Minimize the Windows NT CD-ROM dialog box.
3. Select Start > Settings > Control Panel.
4. The Control Panel dialog box appears. Double-click the Add/Remove Programs icon.
5. The Add/Remove Programs Properties dialog box appears. Click the Windows Setup tab.
6. On the Windows Setup tab, click the Have Disk command button.
7. The Install From Disk dialog box appears. Click the Browse command button.
8. The Open dialog box appears. In the Drives drop-down listbox, select the computer's CD-ROM drive. In the Folders list box, double-click the Clients folder. Then scroll down and double-click the Srvtools folder. Double-click the Win95 folder. Srvtools.inf appears in the File Name list box, as shown in Figure 14-1. Click OK.

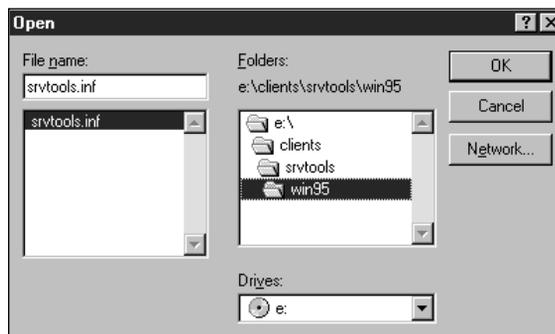


FIGURE 14-1 Selecting NT Server tools from the CD

9. The Install From Disk dialog box reappears, as shown in Figure 14-2. Notice the full path to the NT Server tools. Click OK.



FIGURE 14-2 Preparing to install NT Server tools from the compact disc

- The Have Disk dialog box reappears. Select the check box next to Windows NT Server Tools in the Components list box. The dialog box's appearance, at this point, is as shown in Figure 14-3. Click the Install command button.

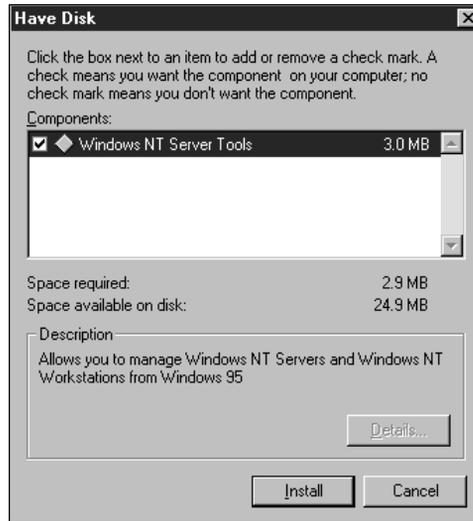


FIGURE 14-3 Installing NT Server tools

- Windows 95 copies files and updates shortcuts, and then displays the Add/Remove Programs Properties dialog box again, as shown in Figure 14-4. Notice the Components list box shows that the Windows NT Server tools are installed on the computer. Click OK.
- Before the NT Server tools can be used on this computer, you must edit the computer's `autoexec.bat` file. To start this process, select `Start > Programs > MS-DOS Prompt`.
- At the `C:\WINDOWS>` prompt, type `edit c:\autoexec.bat` and press Enter.
- The contents of the `autoexec.bat` file are displayed. (If you did not previously have an `autoexec.bat` file, the window will be blank.) After the last entry listed, type the following line: `SET PATH=%PATH%;C:\SRVTOOLS` and press Enter. Select `File > Exit`.

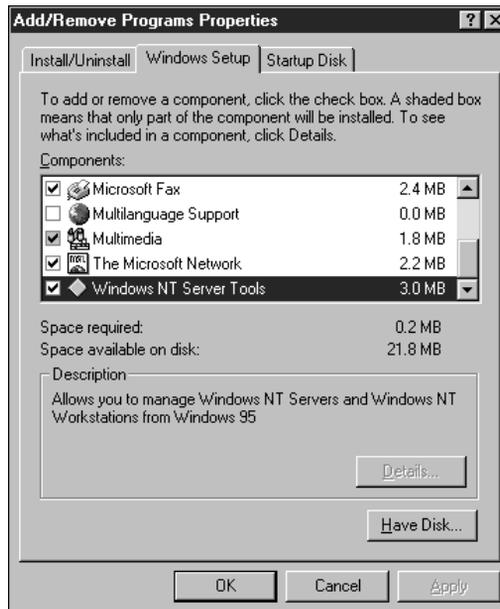


FIGURE 14-4 NT Server tools installed

15. The Save File dialog box appears. Click the Yes command button.
16. The C:\WINDOWS> prompt reappears. Type **exit** and press Enter.
17. Restart Windows and the new path takes effect. Windows NT Server Tools will appear in the Start \gg Programs menu.



note If you want to install NT Server tools on a Windows 95 computer over the network (instead of using a CD-ROM drive), connect to the shared folder that contains the Windows 95 NT Server tools source files, and select that folder during the installation process.

NT Server Tools for Windows NT Workstation Computers

The NT Server tools that can be installed on Windows NT Workstation computers are: *User Manager for Domains*, *Server Manager*, *System Policy Editor*, *Remote Access Admin*, *DHCP Administrator*, *WINS Manager*, and *Remoteboot Manager*. These tools are Windows NT Workstation versions of the same tools that ship with Windows NT Server, and that are discussed throughout this book.

Because Event Viewer and Windows NT Explorer are already installed on a Windows NT Workstation computer, they are not part of the NT Server tools add-on package.

Table 14-2 shows the NT Server tools that can be installed on Windows NT Workstation client computers and the basic functions that they enable an administrator to perform remotely from the client computer.

TABLE 14-2 NT SERVER TOOLS FOR WINDOWS NT WORKSTATION CLIENT COMPUTERS

<i>NT SERVER TOOL</i>	<i>FUNCTIONALITY</i>
User Manager for Domains	Enables remote management of users, groups, domain security policy, and trust relationships on a Windows NT Server computer.
Server Manager	Enable remote management of shared folders, remote starting and stopping of services, remote management of directory replication, remote viewing of which users are accessing shared resources, and remote disconnection of users from shared resources on a Windows NT Server computer.
System Policy Editor	Enables remote creation and editing of policy files on a Windows NT Server computer.
Remote Access Admin	Enables remote configuration and management of the <i>Remote Access Service</i> (RAS) on a Windows NT Server computer.
DHCP Administrator	Enables remote configuration and management of the DHCP service on a Windows NT Server computer.
WINS Manager	Enables remote configuration and management of the WINS service on a Windows NT Server computer.
Remoteboot Manager	Enables remote configuration and management of the Remoteboot service on a Windows NT Server computer.

Before you can install and run Windows NT Server tools on a Windows NT Workstation client computer, you should ensure that the computer has the following minimum required hardware and software installed:

Hardware required:

- 486DX/33 processor
- 12MB of RAM
- 2.5MB of available hard disk space on the boot partition

Software required:

- Windows NT Workstation
- Server service
- Workstation service

Installing NT Server tools on a Windows NT Workstation computer

In addition to the minimum required hardware and software, installing Windows NT Server tools on a Windows NT Workstation client computer requires either a CD-ROM drive on the client computer *and* the Windows NT Server 4.0 compact disc, or access to a shared folder containing a copy of the NT Server tools on an available network server.

You can't pick and choose which NT Server tools to install — they are all installed as a single package. The next section explains how to install NT Server tools on a Windows NT Workstation computer.

TO INSTALL WINDOWS NT SERVER TOOLS ON A WINDOWS NT WORKSTATION CLIENT COMPUTER (BY USING A CD-ROM DRIVE), FOLLOW THESE STEPS:

1. Start Windows NT Workstation on the computer. Log on as Administrator. Place the Windows NT Server 4.0 compact disc in the CD-ROM drive.
2. Select Start > Programs > Windows NT Explorer.
3. In the Exploring dialog box, click the + sign next to the CD-ROM drive. Under the CD-ROM drive, click the + sign next to the `Clients` folder. Click the + sign next to the `Srvtools` folder. Highlight the `Winnt` folder. Figure 14-5 shows the Exploring dialog box at this point. Notice the `Setup.bat` file in the "Contents of Winnt" section.
4. In the "Contents of Winnt" section in the right-hand window, double-click `Setup.bat`.
5. A window appears, as shown in Figure 14-6, indicating that the Client-based Network Administration Tools have been installed. Press any key to continue.
6. The Exploring dialog box reappears. The Windows NT Server tools are now installed. Continue on to Step 7 to create icons for the server tools.

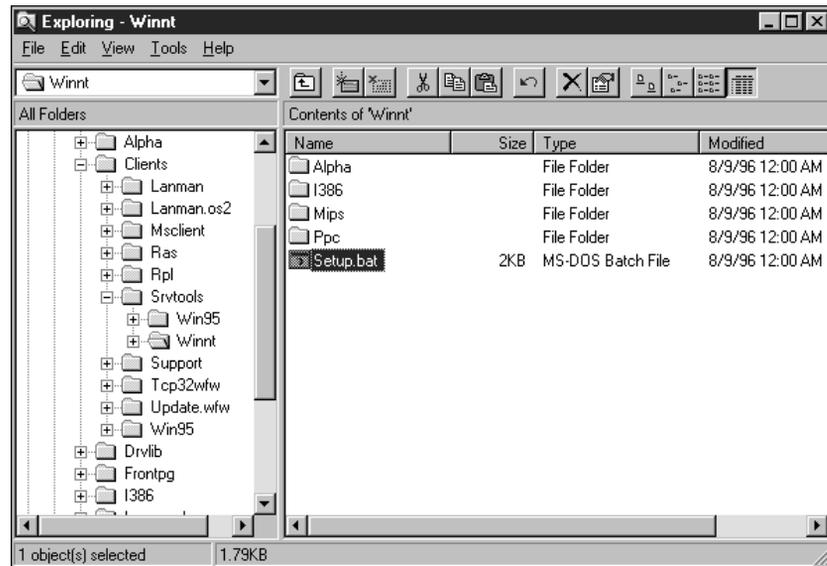


FIGURE 14-5 Installing NT Server tools on a Windows NT Workstation computer

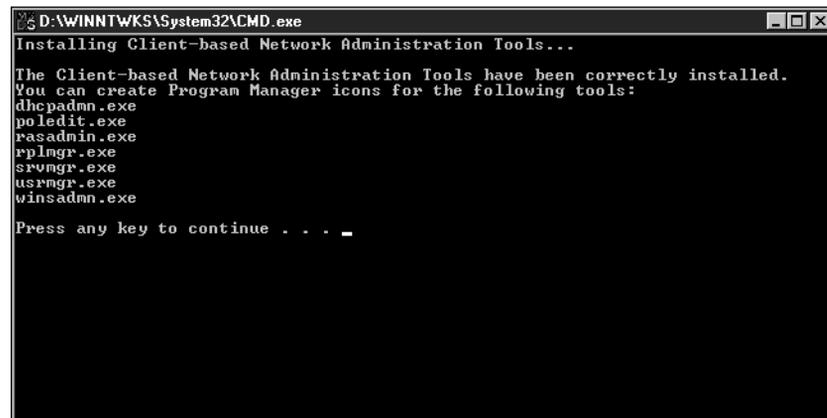


FIGURE 14-6 NT Server tools installed on an NT Workstation computer

- In the Exploring dialog box, click the + sign next to the drive on your computer on which you originally installed Windows NT Workstation (if it is not already expanded). Often, this is the C: drive. Click the + sign next to the <winntroot> folder. (Remember, <winntroot> is the folder in which Windows NT Workstation is installed.) Click the + sign next to the Profiles folder. Click the + sign next to the All Users folder. Click the + sign next to the Start Menu folder. Click the + sign next to the Programs folder. Highlight the Administrative Tools (Common) folder.

8. Select File > New > Shortcut.
9. In the Create Shortcut dialog box, type **c:\<winntroot>\system32\usrmgr.exe** in the command line text box. (Replace <winntroot> with the name of the folder in which NT Workstation is installed.) If Windows NT Workstation is installed on a different drive than the C: drive, substitute the correct drive letter in this path. Click the Next command button.
10. In the Select A Title For The Program dialog box, type **User Manager for Domains** in the Select A Name For The Shortcut text box. Click the Finish command button.
11. The Exploring dialog box reappears. Repeat Steps 8–10 to create icons for each of the following NT Server tools:

Filename:	Shortcut name:
c:\<winntroot>\system32\srvmgr.exe	Server Manager
c:\<winntroot>\system32\poledit.exe	System Policy Editor
c:\<winntroot>\system32\rasadmin.exe	Remote Access Admin
c:\<winntroot>\system32\dhcpadm.exe	DHCP Administrator
c:\<winntroot>\system32\winsadm.exe	WINS Administrator
c:\<winntroot>\system32\rp1mgr.exe	Remoteboot Manager
12. The Exploring dialog box reappears. Exit Windows NT Explorer.

Using Windows NT Server Tools to Manage an NT Server Computer

Windows NT Server tools makes it possible for a user at a client computer to remotely manage an NT Server computer on the network. In effect, NT Server tools turn an administrator's desktop into an NT Server management station, even if the administrator's desktop runs Windows 95 or Windows NT Workstation.

For the most part, Windows NT Server tools are used in the same way on a client computer as they are when they are run on a Windows NT Server computer. (The main differences on a client computer typically consist of an extra step or two to select the appropriate domain and/or computer on which the action will be performed.)

Here's an example of how an Administrator can use Windows NT Server tools (installed on a Windows NT Workstation client computer) to remotely promote a *backup domain controller* (BDC) to a *primary domain controller* (PDC) so that a scheduled upgrade can be performed on the PDC.

Using Server Manager to Remotely Promote a BDC to a PDC

The Administrator performs the following steps on the Windows NT Workstation client computer, on which NT Server tools have been installed, to remotely promote a BDC on the network to a PDC:

1. The Administrator selects Start > Programs > Administrative Tools (Common) > Server Manager. The Server Manager dialog box appears, as shown in Figure 14-7. Note that the computer named BDCLAB is currently a Windows NT 4.0 BDC.

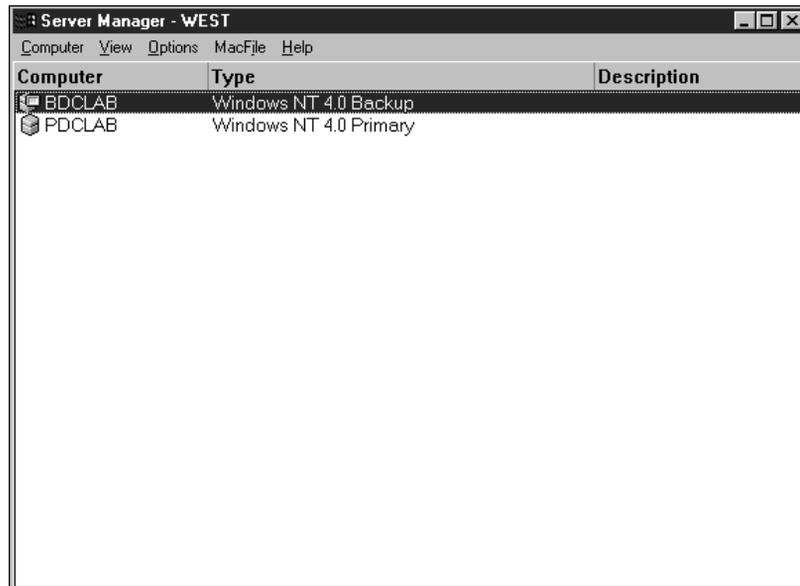


FIGURE 14-7 Preparing to promote the BDC

- Next, the Administrator highlights the BDC in the Server Manager dialog box. The administrator selects Computer > Promote to Primary Domain Controller, as shown in Figure 14-8. Notice the available options in this menu.

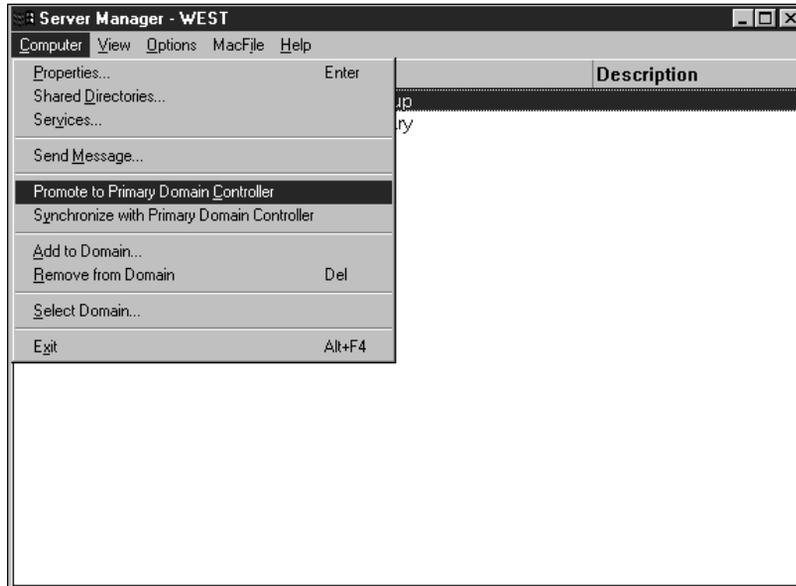


FIGURE 14-8 Promoting the BDC to a PDC

- Finally, the Administrator confirms that he or she wants to promote the BDC by clicking the Yes command button in the Server Manager warning dialog box. Server Manager remotely promotes the BDC to a PDC, and simultaneously demotes the PDC to a BDC. The process takes a few minutes. Finally, the Server Manager dialog box reappears, as shown in Figure 14-9. Notice that the computer named BDCLAB is now a Windows NT 4.0 primary domain controller (PDC).

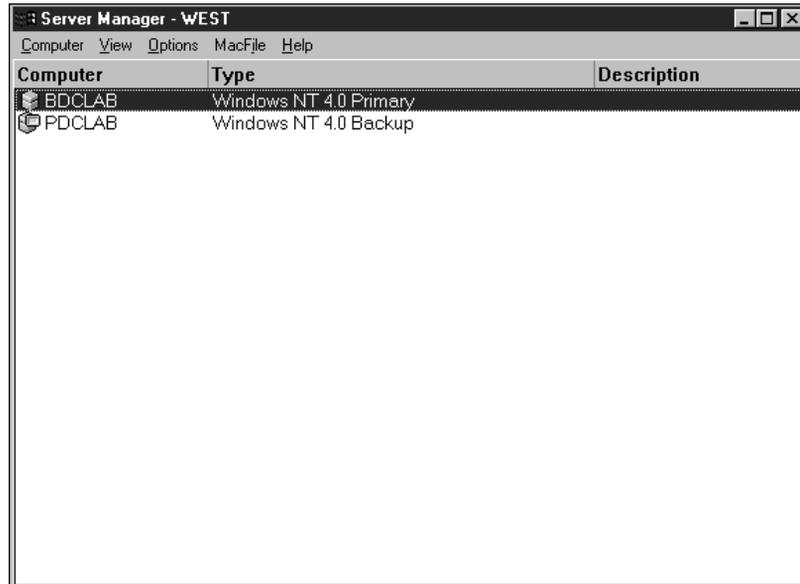


FIGURE 14-9 BDC promoted to PDC

Key Point Summary

This chapter explored how to manage Windows NT Server computers remotely on a network by using Windows NT Server tools.

- *Windows NT Server tools* are a collection of Windows NT Server utilities that, when installed on a Windows 95 or Windows NT Workstation client computer, enable a user at the client computer to manage an NT Server computer remotely on the network. Windows NT Server tools are also referred to as *client-based network administration tools*.
- The NT Server tools that can be installed on Windows 95 client computers are: *User Manager for Domains*, *Server Manager*, *Event Viewer*, and *security extensions for Windows Explorer* to manage file and printer security on a remote Windows NT Server.

- The minimum hardware and software required to install and run NT Server tools on a Windows 95 computer is: a 486DX/33 processor with 8MB of RAM and 3MB of available hard disk space, with Windows 95 and Client for Microsoft Networks installed. Additionally, you need either a CD-ROM drive on the client computer and the Windows NT Server 4.0 compact disc, or you must have access to a shared folder containing a copy of the NT Server tools on an available network server.
- You can't pick and choose which NT Server tools to install—they are all installed as a single package.
- After you install the NT Server tools on a Windows 95 computer, you must edit the computer's *autoexec.bat* file before using the tools.
- The NT Server tools that can be installed on Windows NT Workstation computers are: *User Manager for Domains*, *Server Manager*, *System Policy Editor*, *Remote Access Admin*, *DHCP Administrator*, *WINS Manager*, and *Remoteboot Manager*.
- The minimum hardware and software required to install and run NT Server tools on a Windows NT Workstation computer is: a 486DX/33 processor with 12MB of RAM and 2.5MB of available hard disk space on the boot partition, with Windows NT Workstation, the Server service, and the Workstation service installed. Additionally, you need either a CD-ROM drive on the client computer and the Windows NT Server 4.0 compact disc, or you must have access to a shared folder containing a copy of the NT Server tools on an available network server.
- After you install Windows NT Server tools on a Windows NT Workstation client computer, you need to create icons for the individual server tools.
- NT Server tools, in effect, turn an administrator's desktop into an NT Server management station—even if the administrator's desktop runs Windows 95 or Windows NT Workstation. An example of the process an Administrator goes through to use the Server Manager tool to remotely promote a BDC to a PDC is discussed.

Applying What You've Learned

Now it's time to regroup, review, and apply what you've learned in this chapter.

The following Instant Assessment questions bring to mind key facts and concepts. The hands-on lab exercise reinforces what you've learned, and gives you an opportunity to practice some of the tasks tested by the Microsoft Certified Professional exams.

Instant Assessment

1. What is the primary purpose of Windows NT Server tools?
2. Which NT Server tools can be installed on a Windows 95 client computer?
3. Which NT Server tools can be installed on a Windows NT Workstation client computer?
4. What is the minimum amount of RAM required to install and run NT Server tools on a Windows 95 client computer? On a Windows NT Workstation client computer?
5. Which NT Server tool should you use to remotely promote a BDC to a PDC?
6. Which NT Server tool should you use to manage a shared folder on an NT Server computer remotely from a Windows 95 client computer?
7. Which NT Server tool should you use to manage users on an NT Server computer remotely from a Windows NT Workstation client computer?
8. Which NT Server tool should you use to share the CD-ROM drive on an NT Server computer remotely from a Windows 95 client computer? (Hint: See the lab at the end of this chapter.)
9. Which NT Server tool should you use to manage file, folder, and printer security on an NT Server computer remotely from a Windows 95 client computer?



For answers to the Instant Assessment questions see Appendix D.

Hands-on Lab Exercise

The following hands-on lab exercise provides you with a practical opportunity to apply your knowledge of Windows NT Server tools.

Lab 14.23 *Installing Windows NT Server tools and using NT Server tools to administer a remote server*



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The purpose of this lab is to give you hands-on experience in installing Windows NT Server tools, and experience in using NT Server tools to administer a remote server. You install Windows NT Server tools on a Windows NT Workstation computer, and then (optionally) use Windows NT Server tools to administer your second Windows NT Server computer remotely.

This lab consists of two parts:

Part 1: Installing Windows NT Server tools on a Windows NT Workstation computer

Part 2: (Optional) Administering a remote Windows NT Server computer

Follow these steps carefully.

Part 1: Installing Windows NT Server tools on a Windows NT Workstation computer

(Perform these steps on your first or primary computer.)

1. Boot your computer to Windows NT Workstation. Log on as Administrator. Place your Windows NT Server 4.0 compact disc in your CD-ROM drive.
2. Select Start > Programs > Windows NT Explorer.
3. In the Exploring dialog box, click the + sign next to your CD-ROM drive. Under your CD-ROM drive, click the + sign next to the Clients folder. Click the + sign next to the Srvtools folder. Highlight the Winnt folder.
4. In the "Contents of Winnt" section in the right-hand window, double-click Setup.bat.
5. A window appears, indicating that the Client-based Network Administration Tools are being installed. When you are prompted to press any key to continue, do so.
6. The Exploring dialog box reappears. The Windows NT Server tools are now installed. Continue to Step 7 to create icons for the various server tools.

7. In the Exploring dialog box, click the + sign next to the drive on your computer on which you originally installed Windows NT Workstation (if it is not already expanded). Normally, this is the C: drive. Click the + sign next to the Winntwks folder. Click the + sign next to the Profiles folder. Click the + sign next to the All Users folder. Click the + sign next to the Start Menu folder. Click the + sign next to the Programs folder. Highlight the Administrative Tools (Common) folder.
8. Select File > New > Shortcut.
9. In the Create Shortcut dialog box, type **c:\winntwks\system32\usrmgr.exe** in the Command line text box. (If you installed Windows NT Workstation on a different drive than C:, substitute the correct drive letter in this path.) Click the Next command button.
10. In the Select a Title for the Program dialog box, type **User Manager for Domains** in the Select a name for the shortcut text box. Click the Finish command button.
11. The Exploring dialog box reappears. Select File > New > Shortcut.
12. In the Create Shortcut dialog box, type **c:\winntwks\system32\svrmgr.exe** in the Command line text box. (If you installed Windows NT Workstation on a different drive than C:, substitute the correct drive letter in this path.) Click the Next command button.
13. In the Select A Title For The Program dialog box, type **Server Manager** in the Select a name for the shortcut text box. Click the Finish command button.
14. The Exploring dialog box reappears. Select File > New > Shortcut.
15. In the Create Shortcut dialog box, type **c:\winntwks\system32\poledit.exe** in the Command line text box. (If you installed Windows NT Workstation on a different drive than C:, substitute the correct drive letter in this path.) Click the Next command button.
16. In the Select a Title for the Program dialog box, type **System Policy Editor** in the Select a name for the shortcut text box. Click the Finish command button.
17. The Exploring dialog box reappears. Notice the three shortcuts you have just created are listed in the Contents of Administrative Tools (Common). Exit Windows NT Explorer. The icons you have just created will now appear in the Start > Programs > Administrative Tools (Common) menu.

Continue to Part 2.

Part 2: (Optional) Administering a remote Windows NT Server computer

Part 2 of this lab is optional, because it requires an additional networked computer. Additionally, Lab 10.15 and Lab 13.22 must be completed before performing this lab. See Lab 10.15 for specific computer hardware requirements.

Begin Part 2 by booting your second computer to Windows NT Server. It is not necessary that you log on.

In the first eight steps of Part 2, you use User Manager for Domains (an NT Server tool that you just installed on your Windows NT Workstation computer) to view users remotely and to add a new user to the MAINOFFICE domain on your second computer.

(Perform these steps from your first or primary computer, booted to Windows NT Workstation. Log on as Administrator.)

1. Select Start > Programs > Administrative Tools (Common) > User Manager for Domains.
2. The User Manager dialog box appears. Select User > Select Domain.
3. In the Select Domain dialog box, type **MAINOFFICE** in the Domain text box. (This is the domain name of your second computer.) Click OK.
4. The User Manager dialog box reappears, this time listing users from the MAINOFFICE domain. Notice that the two users you created in Lab 10.15, CarmenM and HansS, appear in the User Name list box. Select User > New User.
5. Type in your first name and last initial in the User Name text box. (Don't leave a space between the two.) Type in your full name in the Full Name text box. Type in a password of **password**, and confirm the password by retyping it. Clear the check box next to User Must Change Password at Next Logon. Select the check box next to Password Never Expires. Click the Groups command button.
6. In the Group Memberships dialog box, highlight Administrators in the Not member of list box. Click the Add command button. Click OK.
7. In the New User dialog box, click the Add command button. Click the Close command button.
8. The User Manager dialog box reappears. Notice that your name now appears in the list of users in the MAINOFFICE domain. Exit User Manager for Domains.

In the remaining steps in Part 2, you use Server Manager to share the CD-ROM drive on your second computer remotely from your Windows NT Workstation computer.

9. Select Start ► Programs ► Administrative Tools (Common) ► Server Manager.
10. In the Server Manager dialog box, select Computer ► Select Domain.
11. In the Select Domain dialog box, type **MAINOFFICE** in the Domain text box. Click OK.
12. The Server Manager dialog box reappears, this time displaying PDCMAINOFFICE, your second computer, in the Computer list box. Select Computer ► Shared Directories.
13. In the Shared Directories dialog box, click the New Share command button.
14. In the New Share dialog box, type **CDROM** in the Share Name text box, and type the drive letter of the CD-ROM drive on your second computer in the Path text box, for example, **D:**. Click OK.
(Note: If you don't have a CD-ROM drive on your second computer, select any other drive letter to share.)
15. The Shared Directories dialog box reappears. Note that CDROM appears in the Shared Directories on \\PDCMAINOFFICE list box, with a hand under it, indicating that it is shared. Click the Close command button.
16. Exit Server Manager.