

CCC PATHWAYS®



***Windows Domain
Network Configuration
Guide***



Windows Domain Network Configuration Guide for CCC Pathways

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Windows Domain Network Configuration Guide for CCC Pathways

Introduction

This document reflects the necessary guidelines for configuring your network to run the Pathways family of software products using the following supported operating systems:

Server

- Windows Server 2003
- Windows 2000 Server

Workstations

- Windows Vista Business, Ultimate, or Enterprise
- Windows XP Professional
- Windows 2000 Professional

This guide assumes that you are installing Pathways for the first time. And while CCC is aware that there are many possible client/server combinations available when setting up a network, this document will cover only some of the most common ones. For further information, please consult your network technician.

The Pathways family of products supported in a network environment include:

- CCC Pathways Appraisal Solution
- CCC Pathways Estimating Solution
- CCC Pathways Independent Appraiser Solution

Warning! Setting up a network requires a complete understanding of networking theory, as well as a thorough knowledge of all supported operating systems. We strongly urge you to enlist the services of a qualified vendor or consultant to install and set up your network.

CCC will answer general questions about running Pathways on a network. If you require extensive consultation on your network configuration or the various supported operating systems, you will need to enlist the services of a qualified network technician. CCC is not responsible for the setup or configuration of your internal network systems.

Refer to the appropriate chapter in this Guide to setup and configure your server and workstations. This **must** be completed before installing Pathways.

Chapter 1 – Windows 2000 Server Domain Server Configuration

Overview

Pathways is a client/server-based application in which network clients access a single copy installed to the network server. Once installed, the server acts as a central repository for all program and data files, as well as an internal set of file location pointers. Since these pointers reside on the server, they are the same for every workstation accessing Pathways on the network. Consequently, the installation of Pathways must be done to a commonly mapped network drive on the server. The installation can either be performed from one of the workstations or from the server itself, as long as it is installed to a drive that is common to all systems on the network.

Important! All subsequent Pathways Program, Data and Graphics updates must be performed at the same system from which the original installation was run.

In a Windows 2000 domain, the server acts as a single point of authentication for each workstation as it logs in. As the server authenticates each user, it determines the access rights that user will have both on the server, and on the local workstation. Unlike previous versions of Windows, the Windows 2000 Server default access rights are much more restrictive, to the point of preventing the basic user from accessing almost all of the local system and temporary directories on their workstation. This can present problems during the installation or update of Pathways software since some of these files may need to be updated. Consequently, during the installation or update of Pathways, the user must be logged onto the local workstation with Administrative rights.

Note Administrator level access is only needed during Pathways installation, Client Setup and program updates. The monthly Data and Graphics CD's can be run by any regular Pathways user.

If you are installing Windows 2000 Server for the first time, CCC strongly recommends doing a clean installation rather than an upgrade from an existing operating system. This will help ensure proper configuration, without any “old baggage” being brought over from the old operating system.

The setup procedures outlined in this guide are provided as an example, and are not meant to be the only possible method for configuring your network. However, we strongly suggest that your network configuration conforms to these guidelines in order to ensure the success of your installation. These instructions assume that your network hardware and software have been properly set up and are functioning normally.

Note If you are running your Windows 2000 Server in a non-domain (workgroup) configuration, then configure your server per the instructions outlined in the *Windows Peer-to-Peer Network Configuration Guide*.

Configuring the Server

Verify that the server and workstations meet all minimum hardware and software requirements as published quarterly in the *CCC Technical Requirements* document. You can find this document located on the CCC website: <http://www.cccis.com/>. CCC strongly urges that the server and workstations meet or exceed our recommended specifications to ensure the best performance.

Verify that you have enough disk space prior to beginning your installation of Pathways. You should have at least 4GB of free disk space on your target drive prior to beginning the installation.

Note Although 4GB is sufficient for the installation and operation of Pathways, CCC recommends that the target drive be as large as is practical in order to allow plenty of room for growth.

Working with Windows Domain Name System (DNS)

When you create a Windows 2000 Server domain, the DNS service must be running and configured. If DNS is not running, it is installed automatically when you create a domain controller or when you promote a server to a domain controller. Without the DNS service, your Windows workstations may not be able to properly locate the domain controller, and thus will not be able to log into the domain.

Configure the network components of the server

When a Network Interface Card (NIC) is installed, Windows 2000 Server will automatically install the following required network components.

- Client for Microsoft Networks
- File and Printer Sharing for Microsoft Networks
- Internet Protocol (TCP/IP)

These are the only components necessary to get the network up and running. And for the most part, all of the default settings for these components will work just fine. The only area that needs careful consideration is how you plan to assign TCP/IP addresses to your server and workstations.

Note If your network is already set up and running correctly and is configured to use the TCP/IP protocol, you may skip to the [Create Pathways users and groups](#) section, later in this chapter.

You will have to either use static IP addressing, or a Dynamic Host Configuration Protocol (DHCP) server. Static IP addressing is a very reliable way to configure your network. However, the downside is that it requires manual configuration at the server as well as at every workstation. Windows 2000 Server comes with two flavors of DHCP. It has limited DHCP functionality built-in to its Internet Connection Sharing (ICS) feature that is probably sufficient for a very small network. It also has a full-featured DHCP server that is better suited to a larger network or to small networks needing more flexibility than what is provided with ICS. For ease of use and configuration on the part of each workstation, we strongly recommend that you utilize one of these DHCP servers. A DHCP server provides automatic IP address assignments to all other workstations on the network, thus eliminating the need to manually assign them.

Choose one of following three TCP/IP addressing schemes listed below, and then proceed to the appropriate section.

- [DHCP](#)
- [ICS \(Choose either an existing or “dummy” connection.\)](#)
- [Static IP Addressing](#)

Installing the DHCP Service

The first step in implementing DHCP is to install the DHCP service. Before you install the DHCP service, you should specify a Static IP address, Subnet Mask, and Default Gateway address for the network adapter bound to TCP/IP in the computer designated as the DHCP server. (Refer to the [Configure Static IP addressing](#) section later in this guide if you need help with configuring the Static IP settings.)

Install the DHCP service

- 1 Log into Windows 2000 Server as an Administrator.
- 2 Click Start > Settings > Control Panel.
- 3 Double-click Add/Remove Programs, and then click the Add/Remove Windows Components icon on the left panel.
- 4 Click Networking Services, and then click the Details button.
- 5 Click the selection button for the Dynamic Host Configuration Protocol (DHCP) entry in the list of subcomponents of Networking Services, and then click OK.
- 6 Click Next to install the required components.
- 7 If prompted, insert the Windows 2000 Server CD-ROM.
- 8 Click Finish, and then close the Add/Remove Programs window.
- 9 Close the Control Panel window, and remove the Windows 2000 Server CD-ROM from the drive, if used.

Note You will be prompted to configure a Static IP if your Local Area Network is configured to use a Dynamic IP.

Configuring the DHCP Service

The basic tasks for configuring the DHCP service are creating a DHCP scope, configuring a DHCP scope, and configuring a client reservation.

Creating a DHCP Scope

After you have installed the DHCP service and it is running, the next step is to create a scope. Before a DHCP server can lease an address to DHCP clients, it must have a scope defined. A scope is a pool of valid IP addresses available for lease to DHCP clients.

When creating a DHCP scope, consider the following points:

- You must create at least one scope for every DHCP server.
- You must exclude static IP addresses from the scope.
- You can create multiple scopes on a DHCP server to centralize administration and to assign IP addresses specific to a subnet. You can assign only one scope to a specific subnet.

Create a DHCP scope

- 1 Log into Windows 2000 Server as an Administrator.
- 2 Click Start > Programs > Administrative Tools, and then click DHCP.
- 3 Right-click the entry for the DHCP server, and then click New Scope. The New Scope Wizard window appears.
- 4 Click Next from the Welcome screen, and then enter a Name and Description for the scope and then click Next.
- 5 Enter the range of IP addresses included in the scope and the Subnet mask. (You can specify the Subnet mask by length or as an IP address.) Click Next.
- 6 From the Add Exclusions window, specify any addresses that must be excluded from the scope. (You should at least exclude the address of the server itself, but should also include a small range of addresses for statically assigned routers, printers, etc.) Click Next.

Note An exclusion is an address or range of addresses that the server should not distribute. You can exclude multiple ranges of addresses.

- 7 Next, specify how long a client can use an IP address from this scope as issued by the DHCP server (For most installations, the default setting of 8 days should work fine.), and then click Next.

- 8 From the Configure DHCP Options window, specify that you want to configure common DHCP options now, and then click Next.
- 9 Specify any routers or default gateways to be used by this scope (you may or may not have any), and then click Next.
- 10 Enter the parent domain name you want client computers to use for Domain Name System (DNS) name resolution. Assuming that you are using the DNS server built-in to this Windows 2000 Server, enter the server name and IP address for the local server, and then click Next.
- 11 From the WINS Servers window, specify the server name and IP address of your Windows Internet Name Service (WINS) server (if you have one), and then click Next.
- 12 Specify if you want to activate the scope now or later, click Next, and then click Finish.
- 13 Optionally, you may need to Authorize the server before it can begin assigning IP addresses. Right-click the entry for the DHCP server, and then click Authorize.

Note Once you have created the scope, you must activate it to make it available for lease assignments.

Important! You must delete and recreate a scope to specify a new subnet mask or range of IP addresses.

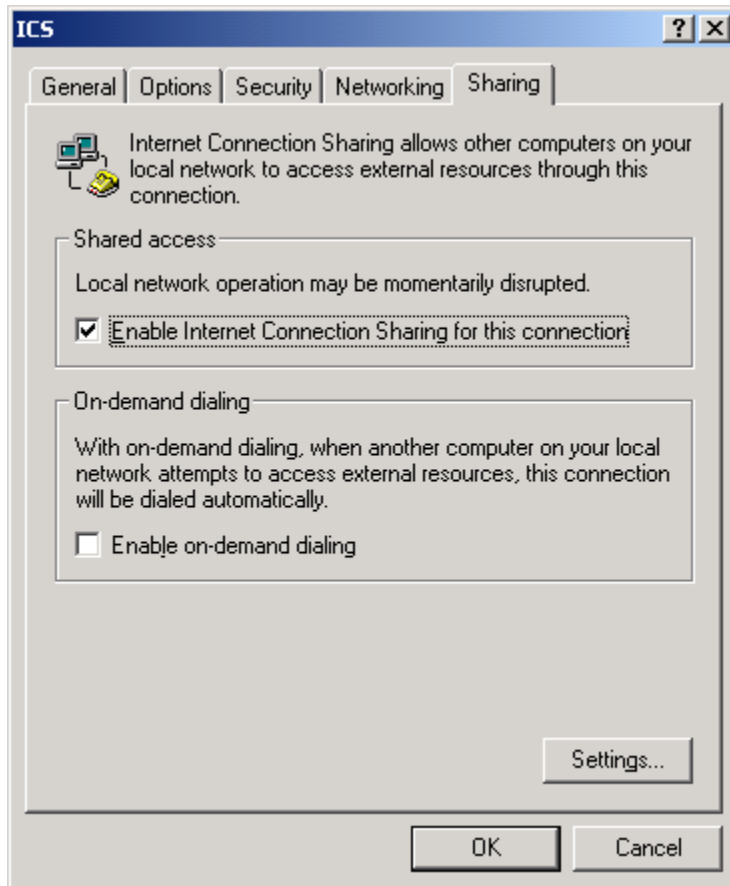
Note If the above section was just completed, skip to the [Configure network identification settings](#) section later in this chapter.

Setting up Internet Connection Sharing

Setting up Internet Connection Sharing on your Windows 2000 Server is relatively simple and painless, and greatly simplifies the task of ensuring that each of the workstations has a unique IP address that is correctly defined. If you already have an Internet connection that you want to share with the other users on your network, follow the instructions under [Share an existing Internet connection](#). To set up a “dummy” connection to allow ICS to automatically assign IP addresses to your workstations, follow the instructions under [Configure a “dummy” ICS connection](#).

Share an existing Internet connection

- 1 Log into Windows 2000 Server as an Administrator.
- 2 Click Start > Settings > Network and Dial-up Connections.
- 3 Right-click the connection you want to share, and then click Properties.



- 4 Click the Sharing tab at the top of the window and then click the “Enable Internet Connection Sharing for this connection” selection button.
- 5 If you want others on your network to be able to automatically connect to the Internet, then click the “Enable on-demand dialing” selection button, and then click OK.

Important! Once ICS is activated on the system sharing the connection, the IP address will automatically change to the static address 192.168.0.1, therefore it may lose connectivity to the other stations until they are properly configured.

Note If the above section was just completed, skip to the [Configure network identification settings](#) section later in this chapter.

Configure a Virtual ICS connection

- 1 Log into Windows 2000 Server as an Administrator.
- 2 Click Start > Settings > Network and Dial-up Connections.
- 3 Double-click Make New Connection, and then click Next to continue.
- 4 Click Dial-up to private network, and then click Next.

- 5 Enter any 7 digit phone number, and then click Next.
- 6 Select For all users, and then click Next.
- 7 Click the “Enable Internet Connection Sharing for this connection” selection button, and then click “Enable on-demand dialing” to deselect it.
- 8 Click Next, and then click Yes from the Network and Dial-up Connections information window.
- 9 Enter a name for the connection (e.g., ICS), and click Finish.

Note This will work even if you do not have a modem in the peer server. The connection may show a red X on it when finished, but ICS will still automatically assign IP addresses to the other workstations.

You must also have two NIC cards installed and configured in order to enable this feature.

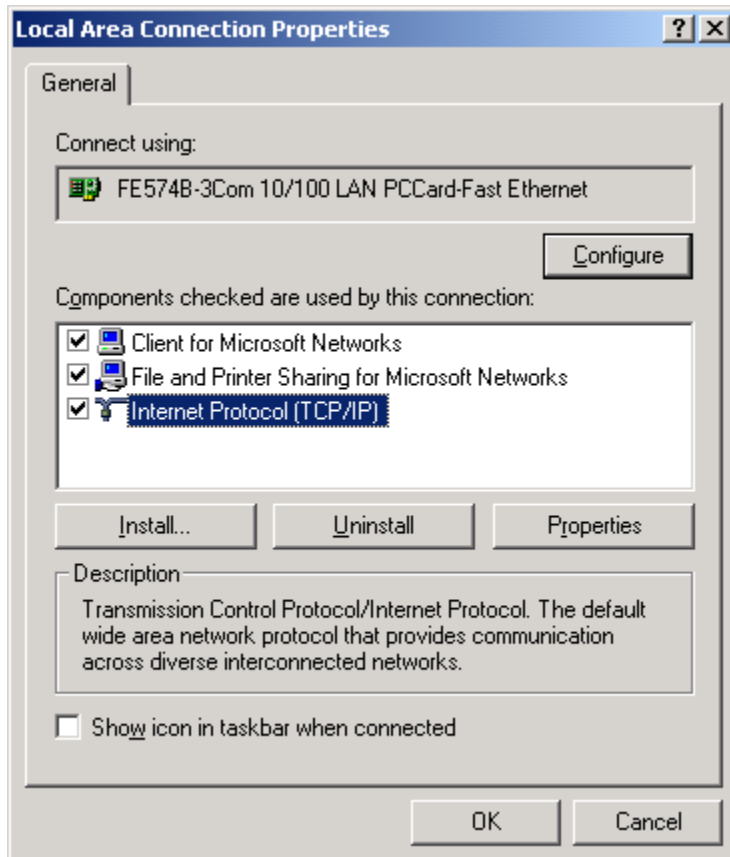
Important! Once ICS is activated on the system sharing the connection, the IP address will automatically change to the static address 192.168.0.1, therefore it may lose connectivity to the other stations until they are properly configured.

Note If the above section was just completed, skip to the [Configure network identification settings](#) section later in this chapter.

Configure Static IP addressing

A Static IP Addressing scheme is a very reliable way to configure your network. However, it does require manual configuration as well as an understanding of how TCP/IP addressing functions. Another point that must be remembered, is that whenever a new workstation is added to the network, it will have to be manually configured as well. To configure your server with a Static IP address, follow these simple steps:

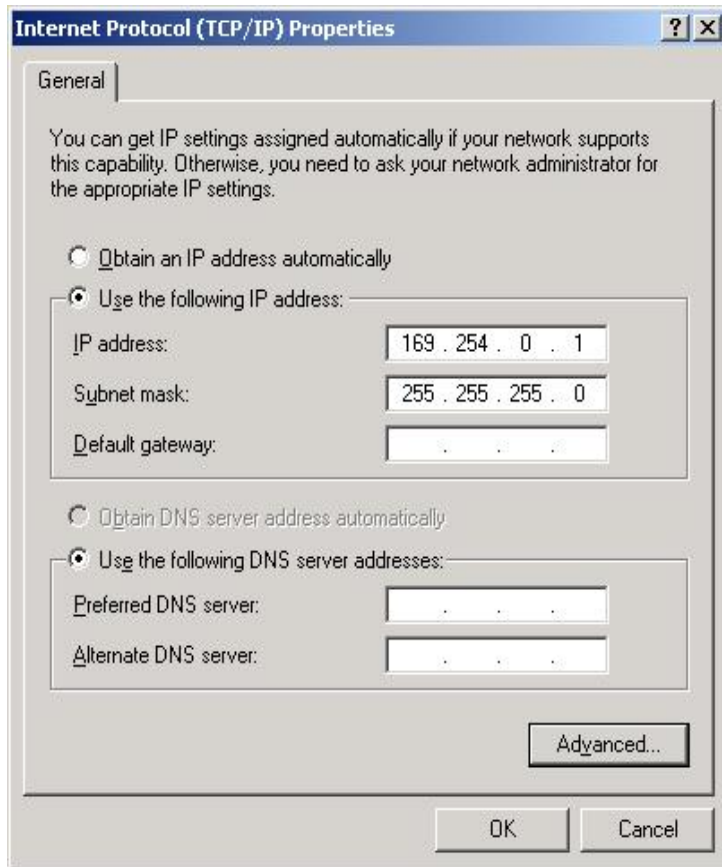
- 1 Log into Windows 2000 Server as an Administrator.
- 2 Click Start > Settings > Network and Dial-up Connections.
- 3 Right-click the Local Area Connection, and then click Properties.
- 4 Verify that the components listed below are present. (If not, click the Install button to add the missing components.)



- 5 Click the “Internet Protocol (TCP/IP)” component, and then click Properties.

Note Additional components are not needed for a simple network installation, and can probably be uninstalled. (Consult with your network technician to be certain.)

- 6 Click the “Use the following IP address” selection button.



- 7 Enter the IP Address and Subnet Mask values in the appropriate fields as displayed above, and then click OK.

CCC recommends using a non-routable address range such as the following:

Subnet Mask:	255.255.255.0
Domain Server:	169.254.0.1
Workstation 1:	169.254.0.10
Workstation 2:	169.254.0.20

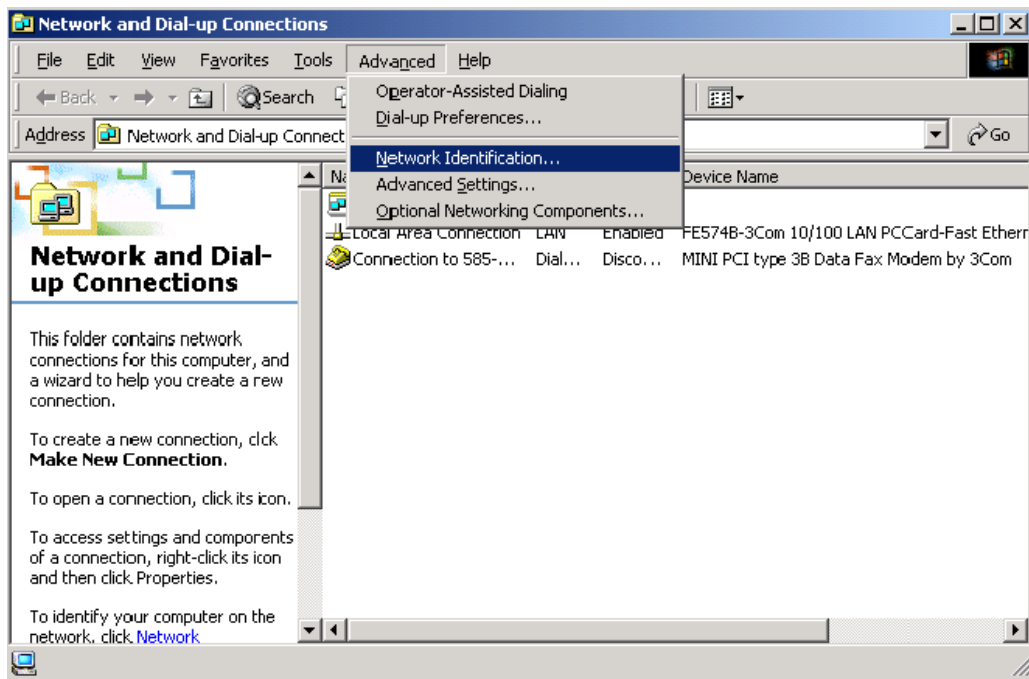
Important! Each system on the network must be configured with a unique IP address.

Note If using DHCP, be sure to exclude the server IP address from the range of addresses that the DHCP server will be assigning to its clients.

Configure Network Identification settings

When you create a domain controller or when you promote a server to a domain controller, the network identification settings are locked and become unchangeable. Therefore, if you did not setup your server name correctly in the beginning, the only recourse is to reinstall. (While it is possible to demote your domain controller to make the changes, this process wipes out all of your domain and security settings and is not generally recommended.) You can view your settings by going through the following steps.

- 1 Click Start > Settings > Network and Dial-up Connections.
- 2 Click Advanced from the menu bar at the top of the window, and then click “Network Identification...”



- 3 From the Network Identification tab, verify that the server has a unique computer name (e.g., **PWServer**). No other computer on your network should have the same name.
- 4 The domain name can be anything you choose, but must be the same on every computer on your network. (Once again, the server's domain name can only be set at the time the domain is created.)
- 5 Click OK to close the window.

Create a logon script for automatic drive mapping

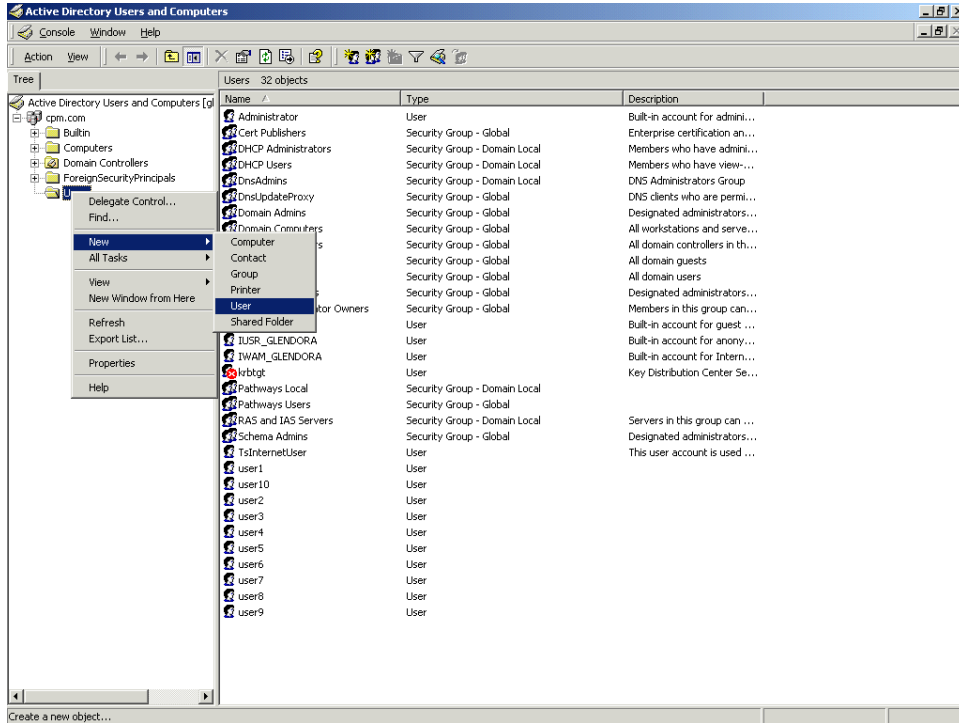
As stated in the [Overview](#) section of this chapter, Pathways requires a common mapped drive from all workstations to the share point on the server. In a Windows 2000 Server domain, there are several ways of achieving this. The most efficient way would be through Group Policy, but due to the complexity and variety of configurations in the field, that type of configuration will not be discussed in this guide. For help with configuring a Group Policy, please enlist the services of a qualified consultant or network engineer. This leaves either mapping from each workstation manually or configuring each user account at the server to run a Logon Script. In the interest of dependability as well as centralized administration, CCC recommends choosing the latter and therefore will be the only mapping option discussed in this guide.

Follow these steps to create a logon script for Pathways users that will automatically map a network drive when the user logs into their workstation.

- 1 Log into Windows 2000 Server as an Administrator.
- 2 Click Start > Programs > Accessories > Windows Explorer.
- 3 Click Tools from the menu bar at the top of the window, and then click Folder Options.
- 4 Click the View tab. Verify that the "Hide file extensions for known files types" option has no checkmark, and then click OK.
- 5 From the Windows Explorer window, expand My Computer (by clicking the Plus sign next to it), and then expand the drive that Windows is installed on, (usually drive C).
- 6 Keep expanding down the following path: Winnt > Sysvol > Sysvol > (Your Domain Name) > Scripts. For help in determining your domain name, see the "Configure Network Identification settings" section earlier in this chapter.
- 7 Click the Scripts folder. The window displays script files in the right pane. (It may or may not be empty depending on your configuration).
- 8 From the menu bar, click File > New > Text Document.
- 9 Rename the new text document to Pathmap.bat, and then click Yes when the Rename Warning to clear the error message window.
- 10 Right-click the Pathmap.bat file you just created, and then click Edit.
- 11 The Notepad window appears. Enter the following text (without quotes): "net use p: \\servername\cccapps". Substituting p: for whatever drive letter you decided to use for Pathways and replacing "servername" with the actual name of your server. For help in determining your server name, see the "Configure Network Identification settings" section earlier in this chapter.
- 12 Close Notepad. When asked to save changes, click Yes, and then close Windows Explorer.

Create Pathways users

- 1 Log into Windows 2000 Server as an Administrator.
- 2 Click Start > Administrative Tools > Active Directory Users and Computers.
- 3 Expand the Domain object (by clicking the plus sign next to it).
- 4 Right-click the Users folder, and then click New > User.



- 5 Enter the name "installer" in both the First Name field as well as the User Logon Name field, and then click Next. (This account will be used for Pathways installation, Client Setup and program update purposes.)

New Object - User

Create in: cpm.com/Users

First name: installer Initials: []

Last name: []

Full name: installer

User logon name: installer @cpm.com

User logon name (pre-Windows 2000): CPM\ installer

< Back Next > Cancel

- 6 Enter a password of your choice, and confirm the password.
- 7 Click Next, and then click Finish.

New Object - User

Create in: cpm.com/Users

Password: []

Confirm password: []

User must change password at next logon

User cannot change password

Password never expires

Account is disabled

< Back Next > Cancel

Note You may also want to click the “User cannot change password”, “Password never expires” selection buttons, or other options at your discretion.

- 8 In Active Directory User and Computers, right-click the Users folder and then click New > User.

- 9 Enter the First Name, Last Name, and User logon name for one of the users who will be running Pathways at one of the workstations, and then click Next.
- 10 Enter the user's password, set the password restrictions as appropriate, and then click Next.
- 11 Review the settings for the new user. If needed, click Back and make any necessary changes. When you are satisfied, click Finish.
- 12 Repeat steps 8 through 11 for each user who will be running Pathways on the network.

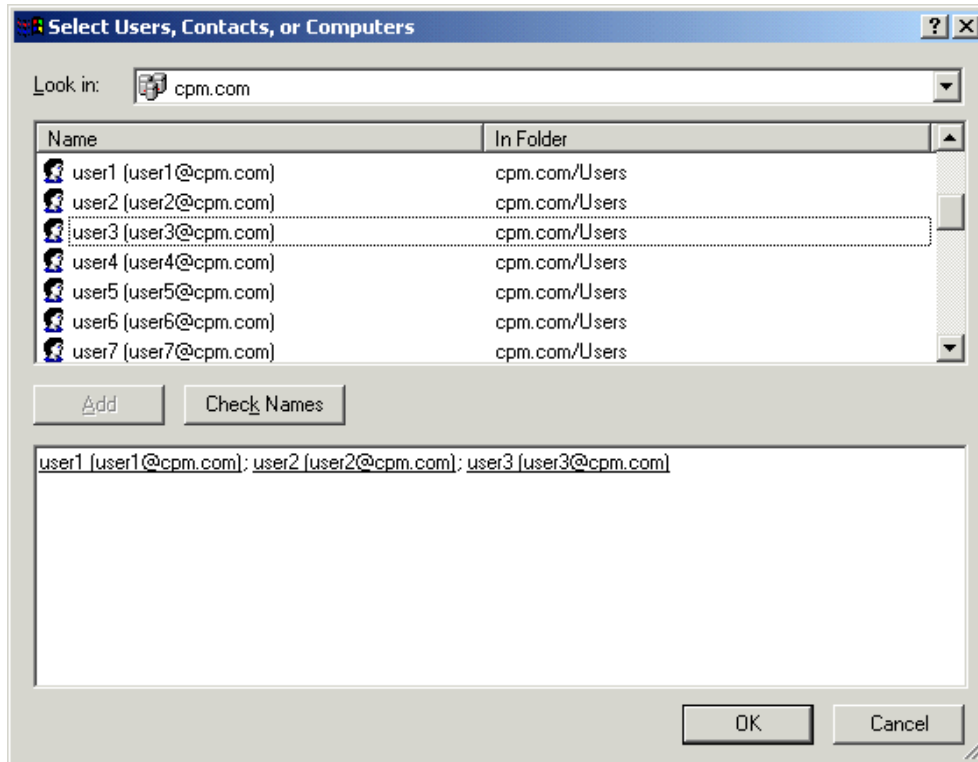
Create Pathways Group

- 1 In Active Directory Users and Computers, right-click the Users folder, and then click New > Group
- 2 Enter "Pathways Users" in the Group Name textbox.

The screenshot shows a dialog box titled "New Object - Group". At the top left is a small icon of two people. To its right, it says "Create in: cpm.com/Users". Below this are two text boxes: "Group name:" containing "Pathways Users" and "Group name (pre-Windows 2000):" also containing "Pathways Users". There are two panels of radio buttons. The "Group scope" panel has three options: "Domain local", "Global" (which is selected), and "Universal". The "Group type" panel has two options: "Security" (which is selected) and "Distribution". At the bottom right are "OK" and "Cancel" buttons.

- 3 From the Group Scope panel, click the Global selection button.
- 4 From the Group Type panel, click the Security selection button, and then click OK.
- 5 In Active Directory Users and Computers, right-click the Users folder, and then click New > Group.
- 6 Enter "Pathways Local" in the Group name textbox.
- 7 From the Group Scope panel, click the Domain Local selection button.
- 8 From the Group Type panel, click the Security selection button, and then click OK.
- 9 Right-click the new Pathways Users group on the right side of the window, and then click Properties.

- 10 Click the Members tab at the top of the window, and then click the Add button. This will bring up a Select Users, Contacts, or Computers window.



- 11 Click the users you created in the previous steps, and then click Add.
- 12 Repeat the above step until you have added all of the users who will be accessing Pathways from this server, and then click OK. (Including the “installer” account.)
- 13 Click OK to close the Pathways Users Properties window.
- 14 Right-click the Pathways Local group on the right side of the window, and then click Properties.
- 15 Click the Members tab at the top of the window, and then click the Add button. This will bring up a Select Users, Contacts, Computers or Groups window.
- 16 Click the Pathways Users group, click Add, and then click OK.
- 17 Click OK to close the Pathways Local Properties window.

Add the Installer account to the Domain Admins group

- 1 Log into Windows 2000 Server as an Administrator.
- 2 Click Start > Administrative Tools > Active Directory Users and Computers.
- 3 Expand the Domain object (by clicking the plus sign next to it).
- 4 Click the Users folder to display its contents in the right window.
- 5 Right-click the “installer” account and then click Properties.
- 6 Click the Member Of tab, and then click the Add button. The Select Groups window appears.

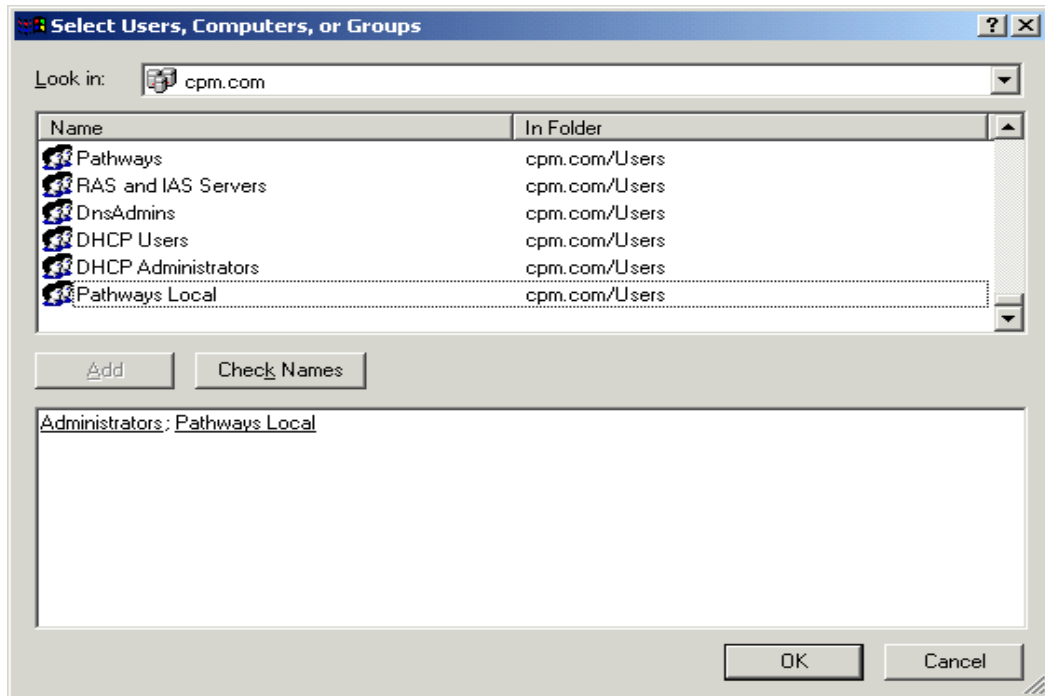
- 7 Click the Domain Admins group, click the Add button, and then click OK.
- 8 Click OK to close the “installer” Properties window.

Add a Logon Script to all Pathways user accounts

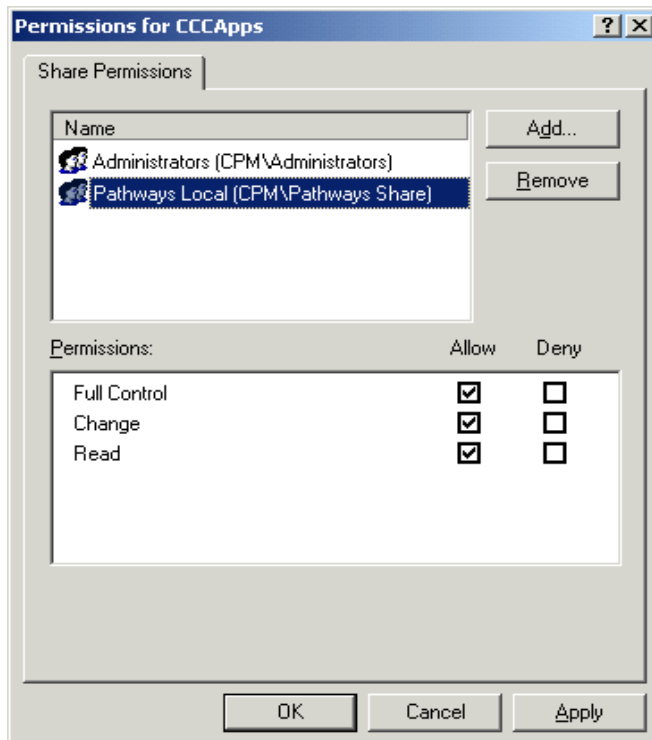
- 1 Log into Windows 2000 Server as an Administrator.
- 2 Click Start > Administrative Tools > Active Directory Users and Computers.
- 3 Expand the Domain object (by clicking the plus sign next to it).
- 4 Click the Users folder to display its contents in the right window.
- 5 Right-click one of the Pathways users you created and then click Properties.
- 6 From the Profile tab, enter “pathmap.bat” in the Logon script textbox, and then click OK.
- 7 Repeat steps 5 and 6 until the script has been added to all Pathways users. (Including the “installer” account).
- 8 Close Active Directory Users and Computers window.

Create a share point on the server

- 1 Log into Windows 2000 Server as an Administrator.
- 2 Double-click the My Computer icon on the desktop.
- 3 From My Computer, create a new directory on the root of the selected drive (e.g., CCCAPPS). This is the directory where Pathways will be installed and will be shared with the Pathways users.
- 4 Right-click the CCCAPPS directory and then click Sharing.
- 5 Click the Share this folder option, leave the Share name set to CCCAPPS, and then click the permissions button.
- 6 Next, click the Add button. This will bring up a Select Users, Computers, or Groups window.



- 7 Add the following groups: Administrators and Pathways Local. Verify that both groups have been added, and then click OK.
- 8 Click Administrators, and then click Full Control under Allow. Do the same for the Pathways Local group.



- 9 Verify both groups have been added with Full Control access. If not, select the appropriate group, and correct the type of access.

- 10 Click the group Everyone, and then click Remove.
- 11 Click OK. This will establish CCCAPPS as the shared network drive/directory and will grant the Pathways users proper access.

Backup options

A backup system (such as a removable drive, CD-RW, or a tape drive) is necessary to protect you from unexpected disasters that lead to loss of data. CCC strongly recommends that you purchase a large-capacity backup system and implement a consistent backup routine that is strictly adhered to. Backups should be done as often as is practical. Depending on the need, it is best to back up the system on a daily or weekly basis. For help with implementing a backup system, please enlist the services of a qualified consultant or network engineer.

Note The Backup and Restore utility that is installed along with Pathways, was primarily designed to ease the move of Pathways from one computer to another in the event of computer upgrade or replacement. However, this utility can be used as a limited backup system due to its ability to auto run through Windows Task Scheduler.

Important! Pathways Backup and Restore will only backup the Pathways work files and configuration files. No program or database files are backed up at all. In the event of a system failure, Pathways would have to be reinstalled first, after which the work files and configuration files could be restored.

You are now ready to Proceed to the appropriate Windows Domain Client Configuration chapter of this guide for instructions on setting up your workstations.

Note Prior to installing a Pathways product onto a network, the network operating system should be correctly installed and functioning on the server, and all workstations should be able to successfully attach and login to the server. A qualified computer technician should make any necessary adjustments.

Chapter 2 – Windows Server 2003 Domain Server Configuration

Overview

Pathways is a client/server-based application in which network clients access a single copy installed to the network server. Once installed, the server acts as a central repository for all program and data files, as well as an internal set of file location pointers. Since these pointers reside on the server, they are the same for every workstation accessing Pathways on the network. Consequently, the installation of Pathways must be done to a commonly mapped network drive on the server. The installation can either be performed from one of the workstations or from the server itself, as long as it is installed to a drive that is common to all systems on the network.

Important! All subsequent Pathways Program, Data and Graphics updates must be performed at the same system from which the original installation was run.

In a Windows Server 2003 domain, the server acts as a single point of authentication for each workstation as it logs in. As the server authenticates each user, it determines the access rights that user will have both on the server, and on the local workstation. Unlike previous versions of Windows, the Windows Server 2003 default access rights are much more restrictive, to the point of preventing the basic user from accessing almost all of the local system and temporary directories on their workstation. This can present problems during the installation or update of Pathways software since some of these files may need to be updated. Consequently, during the installation or update of Pathways, the user must be logged onto the local workstation with Administrative rights.

Note Administrator level access is only needed during Pathways installation, Client Setup and program updates. The monthly Data and Graphics CD's can be run by any regular Pathways user.

If you are installing Windows Server 2003 for the first time, CCC strongly recommends doing a clean installation rather than an upgrade from an existing operating system. This will help ensure proper configuration, without any “old baggage” being brought over from the old operating system.

The setup procedures outlined in this guide are provided as an example, and are not meant to be the only possible method for configuring your network. However, we strongly suggest that your network configuration conforms to these guidelines in order to ensure the success of your installation. These instructions assume that your network hardware and software have been properly set up and are functioning normally.

Note If you are running your Windows Server 2003 in a non-domain (workgroup) configuration, then configure your server per the instructions outlined in the *Windows Peer-to-Peer Network Configuration Guide*.

Configuring the Server

Verify that the server and workstations meet all minimum hardware and software requirements as published quarterly in the *CCC Technical Requirements* document. You can find this document located on the CCC website: <http://www.cccis.com/>. CCC strongly urges that the server and workstations meet or exceed our recommended specifications to ensure the best performance.

Please verify that you have enough disk space prior to beginning your installation of Pathways. You should have at least 4GB of free disk space on your target drive prior to beginning the installation.

Note Although 4GB is sufficient for the installation and operation of Pathways, CCC recommends that the target drive be as large as is practical in order to allow plenty of room for growth.

Working with Windows Domain Name System (DNS)

When you create a Windows Server 2003 domain, the DNS service must be running and configured. If DNS is not running, it is installed automatically when you create a domain controller or when you promote a server to a domain controller by running the `dcpromo` command. The `dcpromo` command is used to create the Active Directory environment. Without the DNS service, your Windows workstations may not be able to properly locate the domain controller, and thus will not be able to log onto the domain.

Configure the network components of the server

When a Network Interface Card (NIC) is installed, Windows Server 2003 will automatically install the following required network components.

- Client for Microsoft Networks
- File and Printer Sharing for Microsoft Networks
- Internet Protocol (TCP/IP)

These are the only components necessary to get the network up and running. And for the most part, all of the default settings for these components will work just fine. The only area that needs careful consideration is how you plan to assign TCP/IP addresses to your server and workstations.

Note If your network is already set up and running correctly and is configured to use the TCP/IP protocol, you may skip to the [Create Pathways users and groups](#) section, later in this chapter.

You will have to either use static IP addressing, or a Dynamic Host Configuration Protocol (DHCP) server. Static IP addressing is a very reliable way to configure your network. However, the downside is that it requires manual configuration at the server as well as at every workstation. Windows Server 2003 comes with two flavors of DHCP. It has limited DHCP functionality built-in to its Internet Connection Sharing (ICS) feature that is probably sufficient for a very small network. It also has a full-featured DHCP server that is better suited to a larger network or to small networks needing more flexibility than what is provided with ICS. For ease of use and configuration on the part of each workstation, we strongly recommend that you utilize one of these DHCP servers. A DHCP server provides automatic IP address assignments to all other workstations on the network, thus eliminating the need to manually assign them.

Choose one of following three TCP/IP addressing schemes listed below, and then proceed to the appropriate section.

- [DHCP](#)
- [ICS](#)
- [Static IP Addressing](#)

Configuring your server as a DHCP Service

The first step in implementing DHCP is to install the DHCP service. Before you install the DHCP service, you should specify a Static IP address, Subnet Mask, and Default Gateway address for the network adapter bound to TCP/IP in the computer designated as the DHCP server. (Please refer to the [Configure Static IP addressing](#) section later in this guide if you need help with configuring the Static IP settings.)

Install and configure the DHCP service using the Manage your Server Wizard

- 1 Log into Windows Server 2003 as an Administrator.
- 2 Click Start > Administrative Tools > Manage Your Server. The Manage Your Server window appears.
- 3 Click the Add or remove a role link in the Managing Your Server Roles pane. The Configure Your Server wizard window appears.
- 4 Click Next. The Server Roles window appears.
- 5 In the Server Role pane, click the DHCP server link, and then click Next.

Note If prompted, insert the Windows Server 2003 CD-ROM.

- 6 The New Scope Wizard appears, click Next.
- 7 Enter a Name for the DHCP scope, and then click Next.

- 8 Enter a Start IP address of 169.254.0.10, and then enter 169.254.0.254 for the End IP address, and then click Next.
- 9 For the Lease Duration, click Next (earlier versions of Server 2003 only).
- 10 Right-click the Address Pool components and then click New Exclusion Range. The Add Exclusion window appears.
- 11 Enter the IP address range to be excluded from the DHCP scope, and then click Add.
- 12 When you are finished entering the IP addresses to be excluded, click Close.
- 13 The Router window appears, enter 169.254.0.1 for the IP address, click Add, and then click Next.
- 14 From the Domain Name and DNS Server window, enter a name for the for the Parent Domain.
- 15 Enter the IP address 169.254.0.1, click Add, and then click Next.
- 16 From the WINS Servers page, enter the server name and IP address of your Windows Internet Name Service (WINS) server (if you have one), and then click Next.
- 17 Click Next to Activate Scope.
- 18 Close the Manage Your Server window.

Authorize the DHCP server

- 1 Log into Windows Server 2003 as an Administrator.
- 2 Click Start > Administrative Tools > DHCP.
- 3 When the DHCP management console window appears, right-click the Name of the server you created in the previous section, and then click Authorize.
- 4 Close the DHCP management console window.

Note If the above section was just completed, skip to the [Configure network identification settings](#) section later in this chapter.

Setting up Internet Connection Sharing

Setting up Internet Connection Sharing on your Windows Server 2003 is relatively simple and painless, and greatly simplifies the task of ensuring that each of the workstations has a unique IP address that is correctly defined. If you already have an Internet connection that you want to share with the other users on your network, follow the instructions under *Share an existing Internet connection*.

Share an existing Internet connection

- 1 Log into Windows Server 2003 as an Administrator.
- 2 Click Start > Control Panel > Network Connections.
- 3 Right-click the connection you want to share, and then click Properties.

- 4 Click the Advanced tab. From the Internet Connection Sharing pane, click the “Allow other network to connect” selection button.

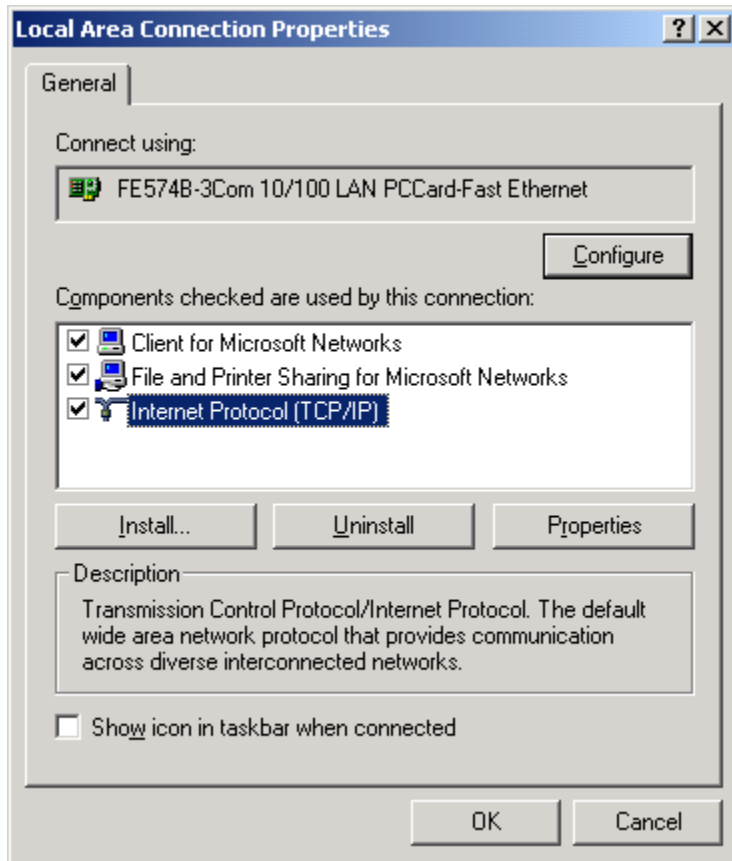
Important! Once ICS is activated on the system sharing the connection, the IP address will automatically change to the static address 192.168.0.1, therefore it may lose connectivity to the other stations until they are properly configured.

Note If the above section was just completed, skip to the [Configure network identification settings](#) section later in this chapter.

Configure Static IP addressing

A Static IP Addressing scheme is a very reliable way to configure your network. However, it does require manual configuration as well as an understanding of how TCP/IP addressing functions. Another point that must be remembered, is that whenever a new workstation is added to the network, it will have to be manually configured as well. To configure your server with a Static IP address, follow these simple steps:

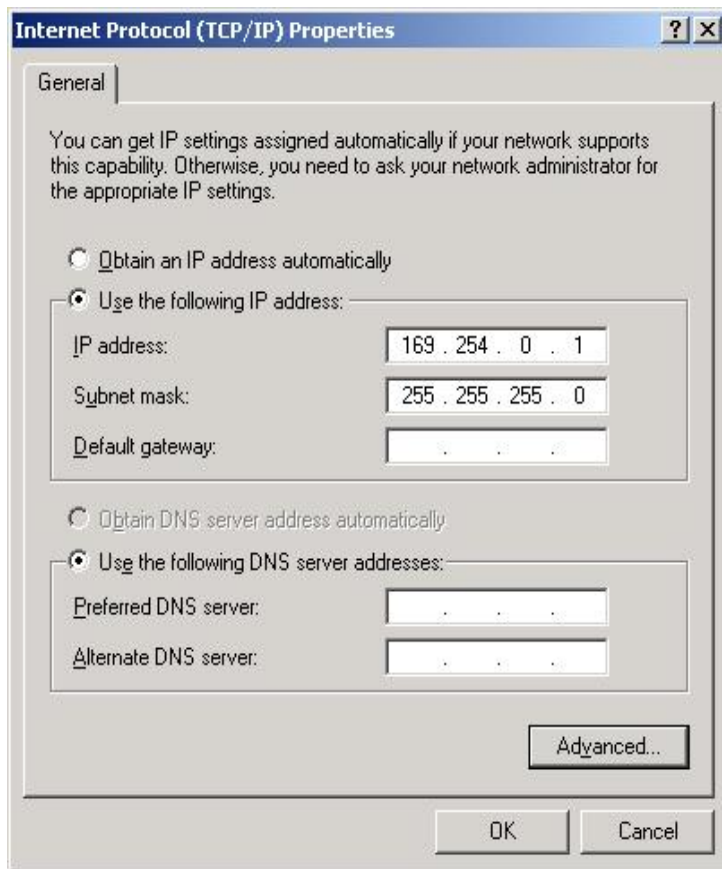
- 1 Log into Windows Server 2003 as an Administrator.
- 2 Click Start > Control Panel > Network Connections.
- 3 Right-click the Local Area Connection, and then click Properties.
- 4 Verify that the components listed below are present. (If not, you can use the Install button to add the missing components.)



- 5 Click the Internet Protocol (TCP/IP) component, and then click Properties.

Note Additional components are not needed for a simple network installation, and can probably be uninstalled. (Consult with your network technician to be certain.)

- 6 Click the "Use the following IP address" selection button and then click the "Use the following DNS server addresses" button.



- 7 Enter the IP Address and Subnet Mask values in the appropriate fields as shown, and then click OK.

CCC recommends using a non-routable address range such as the following:

Subnet Mask:	255.255.255.0
Domain Server:	169.254.0.1
Workstation 1:	169.254.0.10
Workstation 2:	169.254.0.20

Important! Each system on the network must be configured with a unique IP address.

Note If using DHCP, be sure to exclude the server IP address from the range of addresses that the DHCP server will be assigning to its clients.

Configure Network Identification settings

When you create a domain controller or when you promote a server to a domain controller, the network identification settings are locked and become unchangeable. Therefore, if you did not setup your server name correctly in the beginning, the only recourse is to reinstall. (While it is possible to demote your domain controller to make the changes, this process wipes out all of your domain and security settings and is not generally recommended.) You can view your settings by going through the following steps.

- 1 Click Start > Control Panel > System.
- 2 Click the Advanced menu item at the top of the window, and then click Network Identification.
- 3 Click the Computer Name tab. Verify that the server has a unique computer name (e.g., **PWServer**). No other computer on your network should have the same name. The domain name can be anything you choose, but must be the same on every computer on your network. (Once again, the server's domain name can only be set at the time the domain is created.)
- 4 Enter any changes needed, and then click OK.

Create a logon script for automatic drive mapping

As stated in the [Overview](#) section of this chapter, Pathways requires a common mapped drive from all workstations to the share point on the server. In a Windows Server 2003 domain, there are several ways of achieving this. The most efficient way would be through Group Policy, but due to the complexity and variety of configurations in the field, that type of configuration will not be discussed in this guide. For help with configuring a Group Policy, please enlist the services of a qualified consultant or network engineer. This leaves either mapping from each workstation manually or configuring each user account at the server to run a Logon Script. In the interest of dependability as well as centralized administration, CCC recommends choosing the latter and therefore will be the only mapping option discussed in this guide.

To create a logon script for Pathways users that automatically maps a drive when they log onto Windows, please follow these steps:

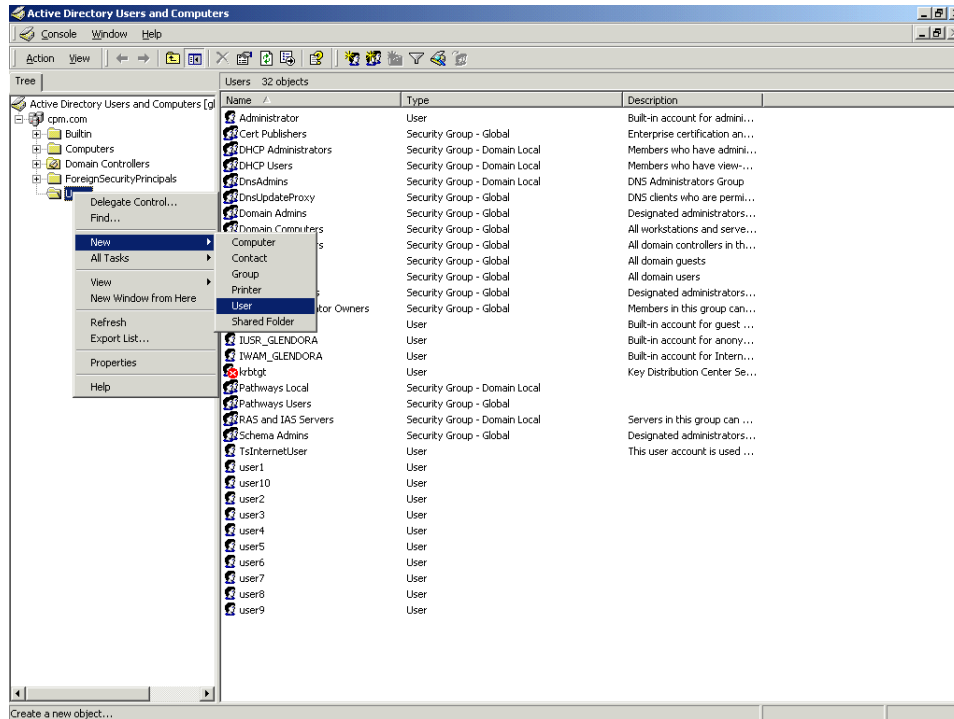
- 1 Log into Windows Server 2003 as an Administrator.
- 2 Click Start > Programs > Accessories > Windows Explorer.
- 3 Click Tools from the menu bar at the top of the window, and then click Folder Options.
- 4 From the View tab, verify that the "Hide file extensions for known files types" selection button has no checkmark, and then click OK.
- 5 From the Windows Explorer window, expand My Computer (by clicking the Plus sign next to it), and then expand the drive that Windows is installed on, (usually C:).
- 6 Keep expanding down the following path: Windows > Sysvol > Sysvol > (Your Domain Name) > Scripts. For help in determining your domain name, see the "Configure Network Identification settings" section earlier in this chapter.
- 7 Click the Scripts folder in order to display the files on the right screen. (It may or may not be empty depending on your configuration).
- 8 From the menu bar, click File > New > Text Document.
- 9 Rename the new text document to Pathmap.bat, and then click Yes on the Rename Warning.
- 10 Right-click the Pathmap.bat file you just created, and then click Edit.
- 11 The Notepad window appears. Enter the following text (without quotes): "net use p: \\servername\cccapps". Substituting p: for whatever drive letter you decided to use for

Pathways and replacing “servername” with the actual name of your server. For help in determining your server name, refer to the “Configure Network Identification settings” section earlier in this chapter.

- 12 Close Notepad. Click Yes to save the changes, and then close Windows Explorer.

Create Pathways users

- 1 Log into Windows Server 2003 as an Administrator.
- 2 Click Start > Settings > Control Panel.
- 3 From Control Panel, open Administrative Tools, and then open Active Directory Users and Computers.
- 4 Expand the Domain object (by clicking the plus sign next to it).
- 5 Right-click the Users folder, and then click New > User.



- 6 Enter the name “installer” in both the First Name field as well as the User Logon Name field, and then click Next. (This account will be used for Pathways installation, Client Setup and program update purposes.)

New Object - User

Create in: cpm.com/Users

First name: installer Initials: []

Last name: []

Full name: installer

User logon name: installer @cpm.com

User logon name (pre-Windows 2000): CPM\ installer

< Back Next > Cancel

- 7 Enter a password of your choice, confirm the password, click Next, and then click Finish.

New Object - User

Create in: cpm.com/Users

Password: XXXXXXXX

Confirm password: XXXXXXXX

User must change password at next logon

User cannot change password

Password never expires

Account is disabled

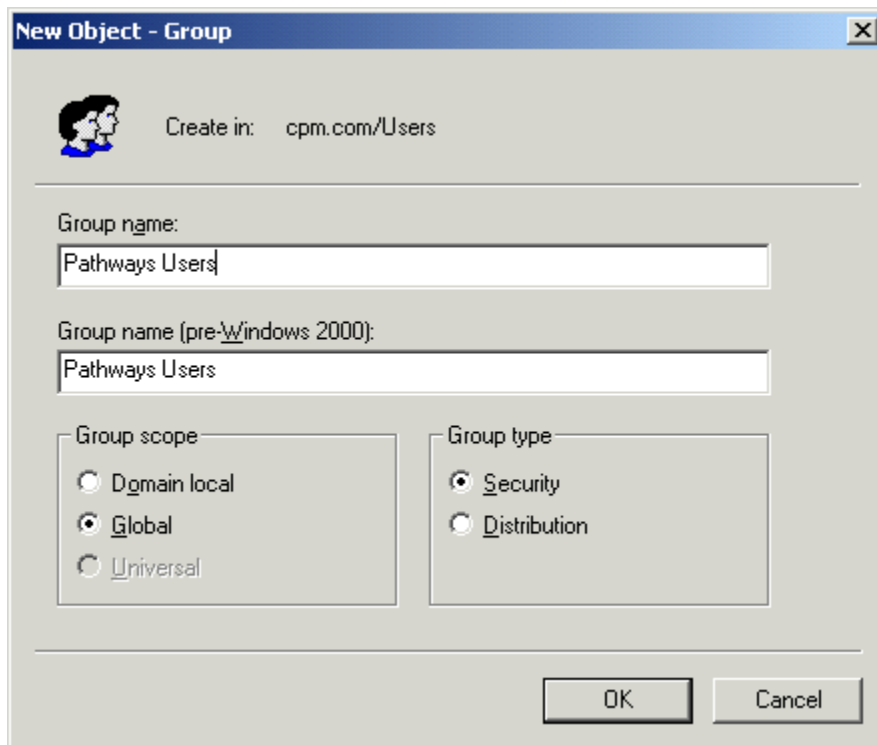
< Back Next > Cancel

Note You may also want to select “User cannot change password”, “Password never expires”, or other options at your discretion.

- 8 In Active Directory User and Computers, right-click the Users folder, and then click New > User.
- 9 Enter the First Name, Last Name, and User logon name for one of the users who will be running Pathways at one of the workstations, and then click Next.
- 10 Enter the user's password, set the password restrictions as appropriate, and then click Next.
- 11 Review the settings for the new user. If needed, click Back and make any necessary changes. When you are satisfied, click Finish.
- 12 Repeat steps 8 through 11 for each user who will be running Pathways on the network.

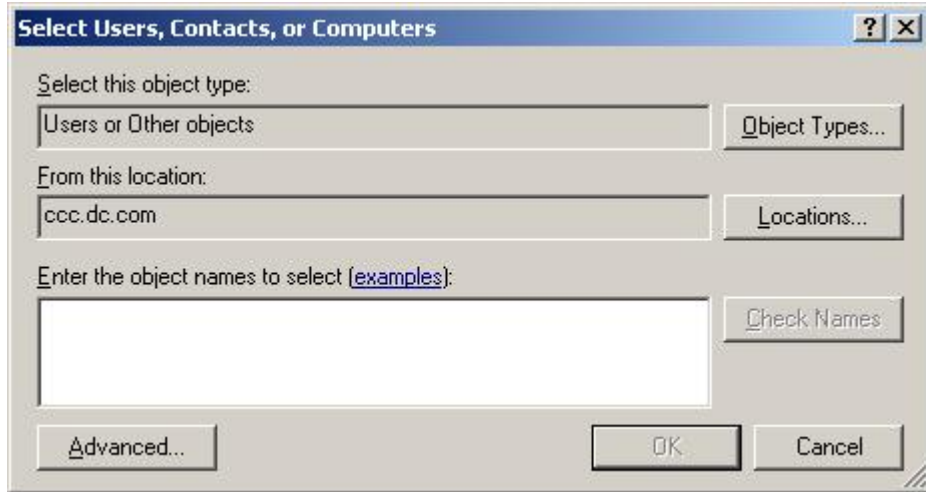
Create Pathways group

- 1 From the Active Directory Users and Computers, right-click the Users folder, and then click New > Group.
- 2 Enter "Pathways Users" in the Group name textbox.



- 3 From the Group scope panel, click the Global selection button.
- 4 From the Group type panel, click the Security selection button, and then click OK.
- 5 From the Active Directory Users and Computers window, right-click the Users folder, and then click New > Group.
- 6 Enter "Pathways Local" in the Group name textbox.
- 7 From the Group scope panel, click the Domain Local selection button.
- 8 From the Group type panel, click the Security selection button, and then click OK.

- 9 Right-click the new Pathways Users group from the right side of the window, and then click Properties.
- 10 Click the Members tab at the top of the window, and then click Add. The Select Users, Contacts, or Computers, window appears.



- 11 Click Advanced, and then click Find Now.
 - 12 Click the users you created in the previous steps, and then click Add.
- Note** You can select multiple users by holding down the Ctrl key and then click on each user.
- 13 When you have finished adding all of the users who will be accessing Pathways from this server, click OK. (Including the “installer” account.)
 - 14 Click OK to close the Pathways Users Properties window.

Add the Installer account to the Domain Admins group

- 1 Log into Windows Server 2003 as an Administrator.
- 2 Click Start > Settings > Control Panel.
- 3 From Control Panel, click Administrative Tools, and then click Active Directory Users and Computers.
- 4 Click the plus sign next to the Domain object to expand.
- 5 Click the Users folder to display its contents in the right window.
- 6 Right-click the “installer” account, and then click properties.
- 7 Click the Member Of tab, and then click Add. The Select Groups window appears.
- 8 Click the Domain Admins group, click Add, and then click OK.
- 9 Click OK to close the “installer” Properties window.

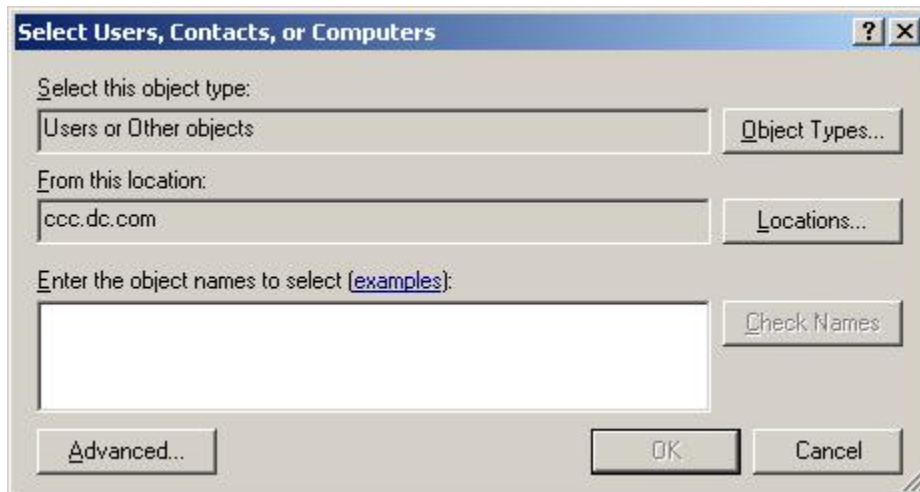
Add a Logon Script to all Pathways user accounts

- 1 Log into Windows Server 2003 as an Administrator.
- 2 Click Start > Settings > Control Panel.

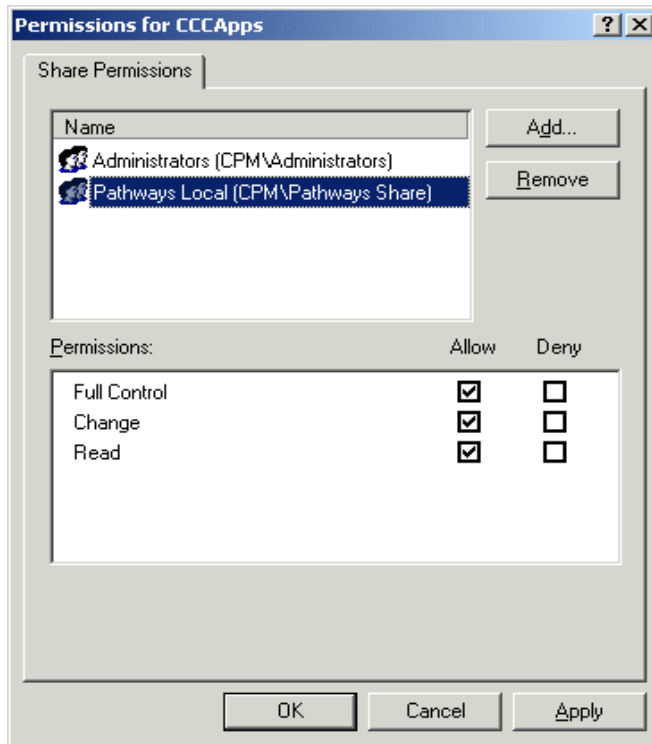
- 3 From Control Panel, click Administrative Tools, and then click Active Directory Users and Computers.
- 4 Click the plus sign next to the Domain object to expand.
- 5 Click the Users folder. The User appear in the right window.
- 6 Right-click one of the Pathways users you created, and then click Properties.
- 7 From the Profile tab, enter "pathmap.bat" in the Logon script field, and then click OK.
- 8 Repeat steps 6 and 7 above until the script has been added to all Pathways users. (Including the "installer" account).
- 9 Close Active Directory Users and Computers.

Create a share point on the server

- 1 Log into Windows Server 2003 as an Administrator.
- 2 Double-click the My Computer icon on the desktop.
- 3 In My Computer, create a new directory on the root of the selected drive (e.g., CCCAPPS). This is the directory where Pathways will be installed and will be shared with the Pathways users.
- 4 Right-click the CCCAPPS directory, and then click Sharing.
- 5 Click the Share this folder selection button, leave the Share name set to CCCAPPS, and then click the permissions button.
- 6 Next, click Add. The Select Users, Computers, or Groups window appears.



- 7 Click Add, and then enter Administrators and Pathways Local.
- 8 Click Check Names. Make certain that both groups have been added, and then click OK.
- 9 Click Administrators, and then click the Full Control Allow selection button. Do the same for the Pathways Local group.



- 10 Confirm that both groups have been added with Full Control access. If not, select the appropriate group, and correct the type of access.
- 11 Click the group Everyone and then click Remove.
- 12 Click OK. This establishes CCCAPPS as the shared network drive/directory and will grant the Pathways users proper access.

Backup options

A backup system (such as a removable drive, CD-RW, or a tape drive) is necessary to protect you from unexpected disasters that lead to loss of data. CCC strongly recommends that you purchase a large-capacity backup system and implement a consistent backup routine that is strictly adhered to. Backups should be done as often as is practical. Depending on the need, it is best to back up the system on a daily or weekly basis. For help with implementing a backup system, please enlist the services of a qualified consultant or network engineer.

Note The Backup and Restore utility that is installed along with Pathways, was primarily designed to ease the move of Pathways from one computer to another in the event of computer upgrade or replacement. However, this utility can be used as a limited backup system due to its ability to auto run through Windows Task Scheduler.

Important! Pathways Backup and Restore will only backup the Pathways work files and configuration files. No program or database files are backed up at all. In the event of a system failure, Pathways would have to be reinstalled first, after which the work files and configuration files could be restored.

You are now ready to Proceed to the appropriate Windows Domain Client Configuration chapter of this guide for instructions on setting up your workstations.

Note Prior to installing a Pathways product onto a network, the network operating system should be correctly installed and functioning on the server, and all workstations should be able to successfully attach and login to the server. A qualified computer technician should make any necessary adjustments.

Chapter 3 – Windows Vista Domain Client Configuration

Configure the Workstations - Overview

The Domain login feature is available on Windows Vista Business, Windows Vista Ultimate, and Windows Vista Enterprise. Verify that the server and workstations meet all minimum hardware and software requirements as published quarterly in the *CCC Technical Requirements* document. You can find this document located on the CCC website: <http://www.cccis.com/>. CCC strongly urges that the server and workstations meet or exceed our recommended hardware specifications to ensure the best performance.

When a Network Interface Card (NIC) is installed, Windows Vista Workstation will automatically install the following required network components and services.

- TCP/IP Protocol
- Computer Browser
- NetBIOS Interface
- RPC Configuration
- Server
- Workstation

These are the only components necessary to get the network up and running. And for the most part, all of the default settings for these components will work just fine. The only area that needs careful consideration is how you plan to assign TCP/IP addresses to your workstations.

Note If your network is already set up and running correctly, and it is configured to use the TCP/IP protocol, then you may skip to the [Configure Network Identification settings and join the domain](#) section, later in this chapter.

The type of TCP/IP addressing scheme needed for the workstations, is determined by the design that was previously chosen for the server.

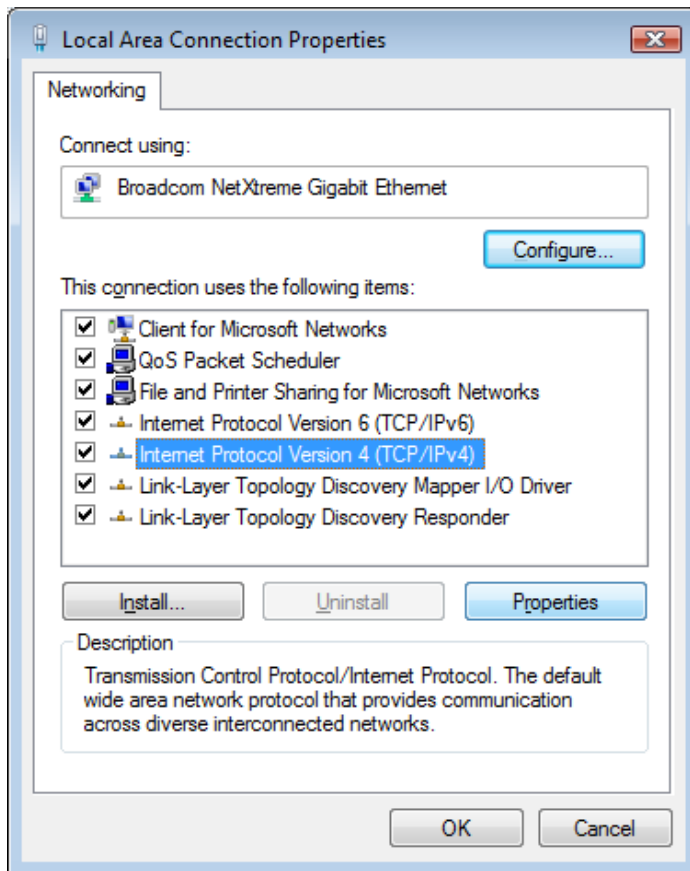
Choose from the list below, the same TCP/IP addressing scheme that was configured for the server, and then proceed to the appropriate section within this chapter.

- [ICS or Automatic Private IP Addressing](#)
- [Static IP Addressing](#)

Configure clients for DHCP or ICS

Whether you are going to use ICS or Automatic Private IP Addressing, the workstation configuration is identical. To verify that you have all of the necessary components and their configurations for this type of setup, follow these steps on each of your Workstation systems:

- 1 Log into Windows Vista as an Administrator.
- 2 Click Start > Control Panel > Network and Internet > Network and Sharing Center.
- 3 From the Private Network pane, click the View status link. The Local Area Connection Status window appears.
- 4 Click the Properties button. The Local Area Connection Properties window appears.



Note Additional components are not needed for a simple network installation. (Consult with your network technician to be certain.)

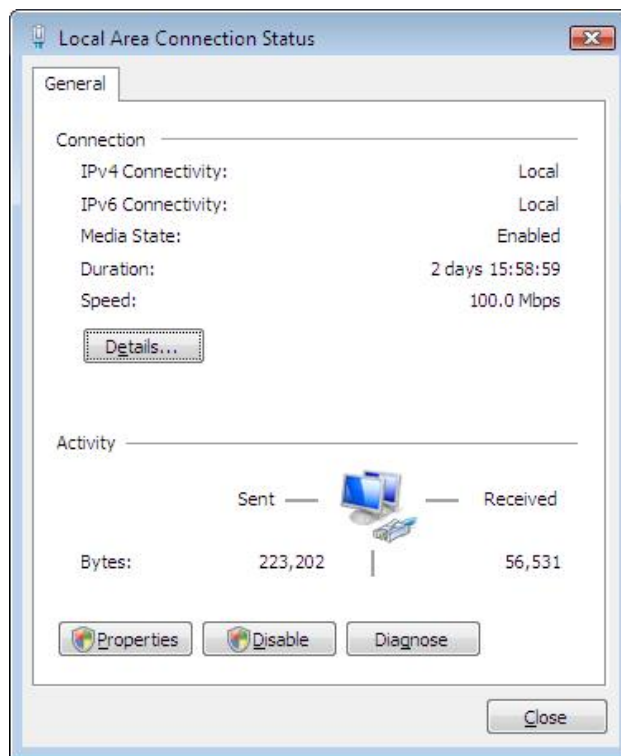
- 5 Click the Internet Protocol Version 4 (TCP/IPv4) component, and then click Properties.
- 6 Click the “Obtain an IP address automatically” selection button, and then click OK.
- 7 Click OK to close the Local Area Connection Properties window.

Note If the above section was just completed, skip to the [Configure network identification settings and join the domain](#) section later in this chapter.

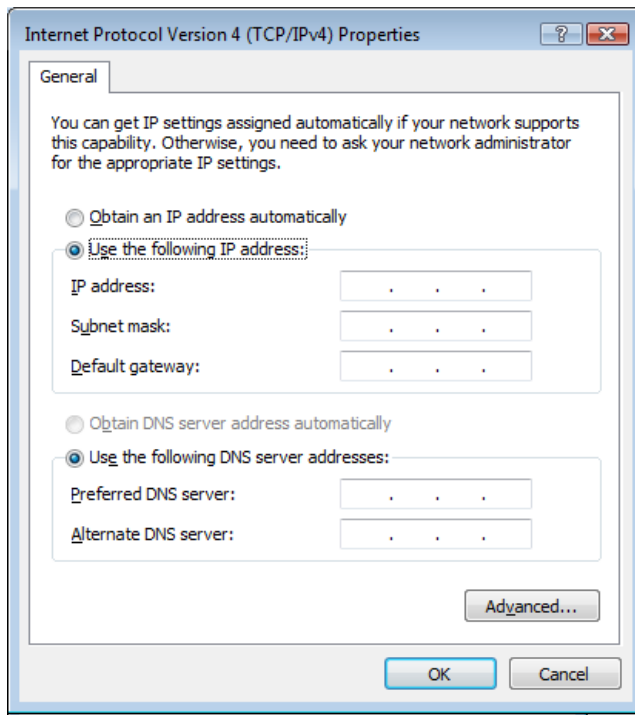
Configure Static IP Addressing

To configure your Windows Vista Workstations with Static IP addresses, please follow these simple steps:

- 1 Log into Windows Vista as an Administrator.
- 2 Click Start > Control Panel > Network and Internet > Network and Sharing Center.
- 3 From the Private Network pane, click the View status link. The Local Area Connection Status window appears.



- 4 Click the Properties button. The Local Area Connection Properties window appears.
- 5 Click the Internet Protocol Version 4 (TCP/IPv4) component, and then click Properties.
- 6 Click the "Use the following IP address" selection button.



CCC recommends using a non-routable address range such as the following:

Workstation 1 IP Address: 169.254.0.10
Workstation 2 IP Address: 169.254.0.20
Subnet Mask: 255.255.255.0
Peer or Default Gateway: 169.254.0.1

Important! Each system on the network must be configured with a unique IP address. You must also enter your DNS server IP address. Consult your network administrator.

- 7 When you are finished, click OK to close the Internet Protocol Version 4 (TCP/IPv4) Properties window.
- 8 Click Close. The Local Area Connection Status window closes.

Configure Network Identification settings and join the domain

- 1 Log into Windows Vista as an Administrator.
- 2 Click Start > Control Panel, and then double-click System (In Classic View mode).
- 3 From the Computer name, domain, and workgroup pane, click the Change settings link. The System Properties window appears.
- 4 Click the Change button. The Computer Name/Domain Change window appears.
- 5 Click the Domain selection button, and then enter the domain name in the Domain textbox.
- 6 Click OK. The Windows Security login window appears.

- 7 Enter the User name and Password of the domain admin user that you set up earlier, and then click OK.
- 8 From the Welcome screen, click OK, and then click Close.
- 9 When prompted to restart the computer, click Yes.

Authenticate on the domain

- 1 From the Windows Vista login window, click the Pathways user Login tile.
- 2 Enter the Domain name\username in the User Name textbox, and then enter the password of the user who will be running Pathways at this workstation, and then click the right arrow icon.

Note You must be logged into the domain as “installer” in order to perform Pathways installation, Client Setup, or program updates.

Access Rights

One of the features of Windows Vista is increased security. System administrators have much greater control over user access to network resources as well as control over user rights and access to the local system. Pathways requires that users have Full Control of both the installation files that reside on the server as well as the Pathways directory that resides locally on each workstation. In order to install, or update the Pathways program, the user must have Administrator level access. This is due to the fact that during the installation or update, program components are being installed and entries are made to the Windows Registry.

Note Administrator level access is only needed during Pathways installation, Client Setup and program updates. The monthly Data and Graphics CD's can be run by any regular Pathways user.

Important! Once Pathways is installed and Client Setup has been run, proper access rights will need to be applied to the local Pathways folder created during the Client Setup process. This includes the server if planning to run Pathways from that station as well. See the *Network Installation & Update Guide for Pathways* for details.

You are now ready to proceed with the installation of your Pathways product. Please refer to the *Network Installation & Update Guide for Pathways* for more information.

Note Prior to installing a Pathways product onto a network, the network operating system should be correctly installed and functioning on the server, and all workstations should be able to successfully attach and login to the server. A qualified computer technician should make any necessary adjustments.

Chapter 4 – Windows XP Professional Domain Client Configuration

Configure the Workstations - Overview

Verify that the server and workstations meet all minimum hardware and software requirements as published quarterly in the *CCC Technical Requirements* document. You can find this document located on the CCC website: <http://www.cccis.com/>. CCC strongly urges that the server and workstations meet or exceed our recommended hardware specifications to ensure the best performance.

When a Network Interface Card (NIC) is installed, Windows XP Professional will automatically install the following required network components.

- Client for Microsoft Networks
- File and Printer Sharing for Microsoft Networks
- Internet Protocol (TCP/IP)

These are the only components necessary to get the network up and running. And for the most part, all of the default settings for these components will work just fine. The only area that needs careful consideration is how you plan to assign TCP/IP addresses to your workstations.

Note If your network is already set up and running correctly, and it is configured to use the TCP/IP protocol, then you may skip to the [Configure Network Identification settings and join the domain](#) section, later in this chapter.

The type of TCP/IP addressing scheme needed for the workstations, is determined by the design that was previously chosen for the server.

Choose from the list below, the same TCP/IP addressing scheme that was configured for the server, and then proceed to the appropriate section within this chapter.

- [ICS or Automatic Private IP Addressing](#)
- [Static IP Addressing](#)

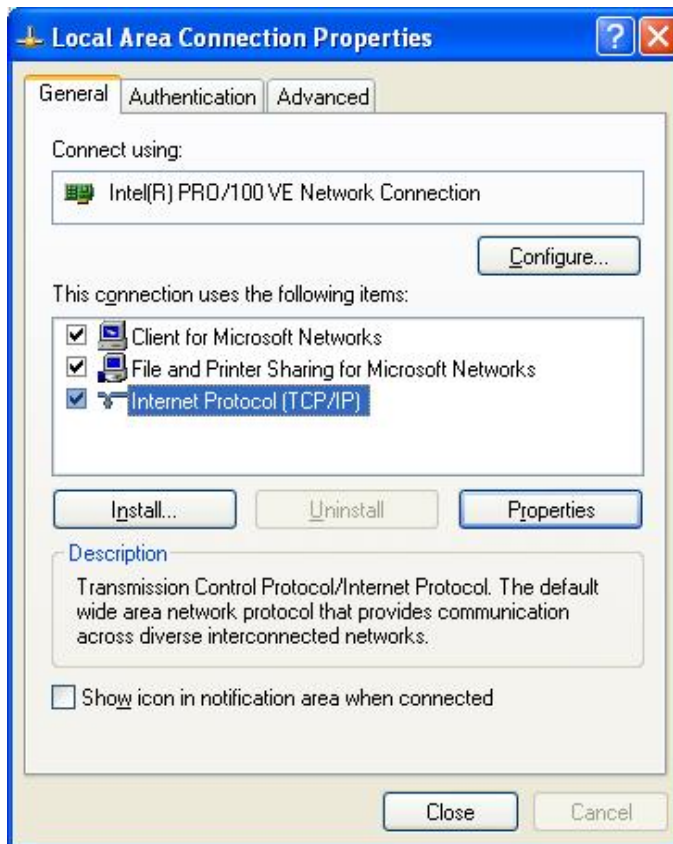
Configure clients for DHCP or ICS

Whether you are going to use ICS or Automatic Private IP Addressing, the workstation configuration is identical. To verify that you have all of the necessary components and their configurations for this type of setup, follow these simple steps on each of your XP Professional workstations:

- 1 Log into Windows XP as an Administrator.
- 2 Click Start > Control Panel.
- 3 Click Network and Internet Connections, and then click Network Connections. If set to Classic View mode, double-click Network Connections.

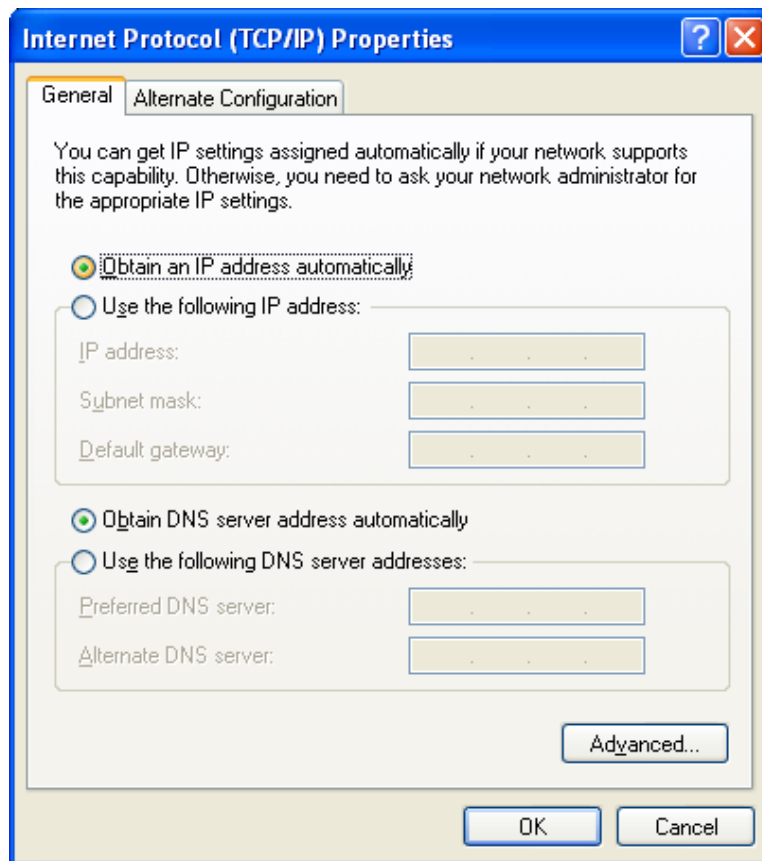
Note If you're in Classic View mode, the link will read, "Switch to Category View". If you're in Category mode, the link will read, "Switch to Classic View".

- 4 Right-click the Local Area Connection, and then click Properties. The Local Area Connection Properties window appears.
- 5 Verify that the components listed below are present. (If not, you can use the Install button to add the missing components.)



Note These are the only components necessary to get the network up and running. Additional components are not needed, and can probably be uninstalled. (Consult with your network technician to be certain.)

- 6 Click the Internet Protocol (TCP/IP) component, and then click the Properties button.
- 7 Click the “Obtain an IP address automatically” selection button, and then click the “Obtain DNS server address automatically” selection button.



- 8 When you are finished making changes, click OK to close the Internet Protocol (TCP/IP) Properties window.
- 9 Click OK to close the Local Area Connection Properties window.

Note If the above section was just completed, skip to the [Configure network identification settings and join the domain](#) section later in this chapter.

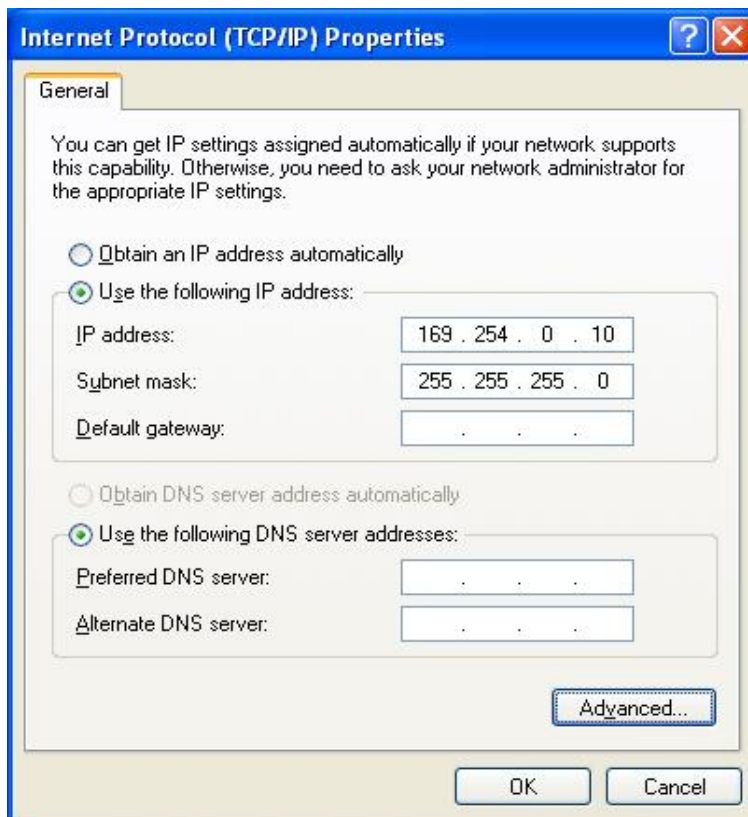
Configure Static IP Addressing

To configure your XP Professional clients with Static IP addresses, Please follow these simple steps:

- 1 Log into Windows XP as an Administrator.
- 2 Click Start > Control Panel, and then double-click Network Connections. The Network Connections window appears.

Note Refer to the Configure ICS or Automatic Private IP Addressing section earlier in this chapter if you need help with navigating to the Network Connections window.

- 3 From the Network Connections window, right-click the Local Area Connection, and then click Properties.
- 4 Click the Internet Protocol (TCP/IP) component, and then click the Properties button. The Internet Protocol (TCP/IP) Properties window appears.
- 5 Click the “Use the following IP address” selection button.



- 6 Enter the IP Address and Subnet Mask values in the appropriate fields as shown above, and then click OK.

CCC recommends using a non-routable address range such as the following:

Workstation 1 IP address: 169.254.0.10
Workstation 2 IP address: 169.254.0.20
Subnet Mask: 255.255.255.0

Peer or DNS Server: 169.254.0.1

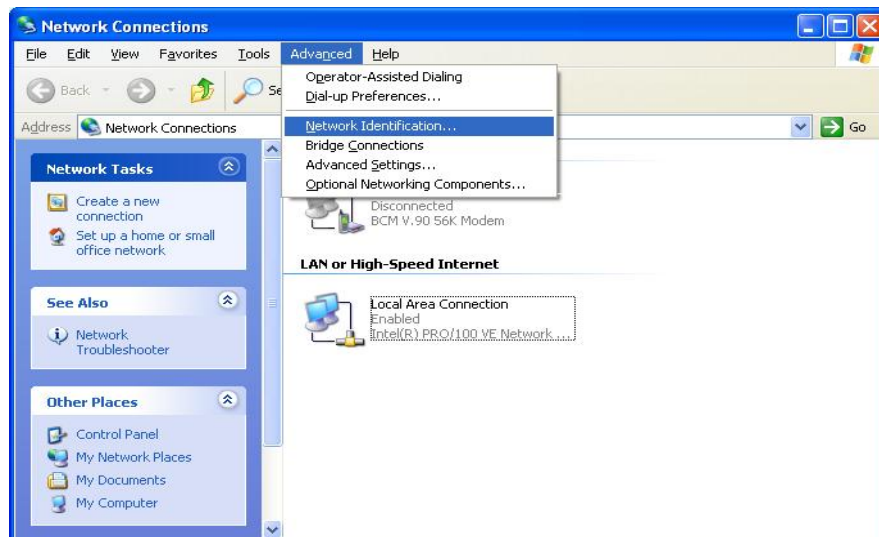
Important! Each system on the network must be configured with a unique IP address.

Configure Network Identification settings and join the domain

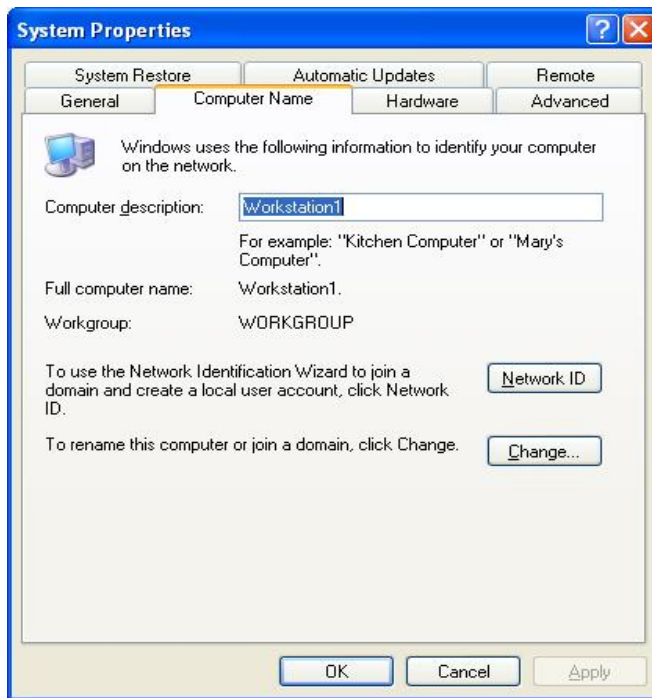
- 1 Log into Windows XP as an Administrator.
- 2 Click Start > Control Panel, and then double-click Network Connections. The Network Connections window appears.

Note Refer to the Configure ICS or Automatic Private IP Addressing section earlier in this chapter if you need help with navigating to the Network Connections window.

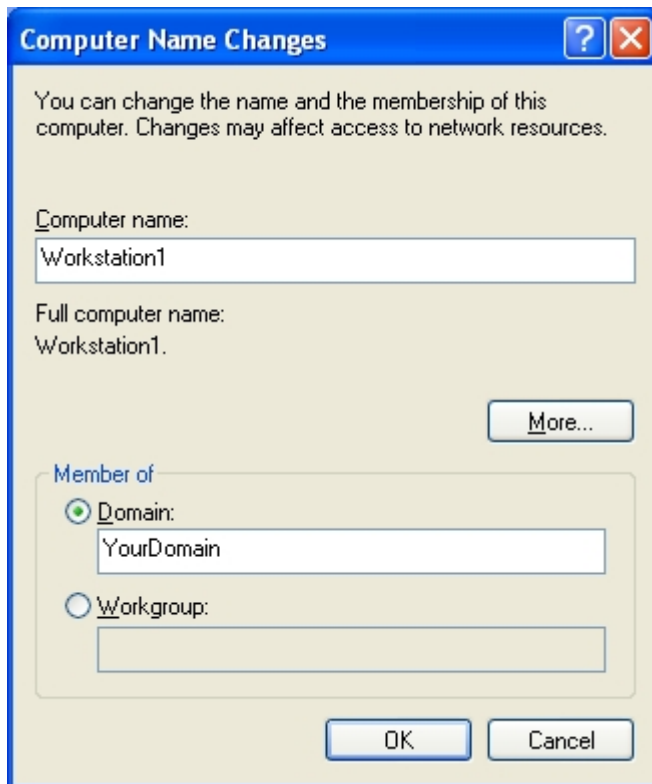
- 3 From the Network Connections window, Click Advanced from the menu bar at the top of the window, and then click “Network Identification...”. The System Properties window appears.



- 4 From the System Properties window, click the Computer Name tab. Verify that the workstation has a unique computer name (e.g., Workstation1). No other computer on your network should have the same name.



- 5 Click the Change button to join this workstation to the domain.
- 6 Click the Domain selection button, enter your domain name in the Domain textbox, and then click OK. The Domain login window appears.



- 7 Enter the User Name and Password of a user with permission to join the domain. Enter “installer” for the User Name, and then enter the password you set when you created the “installer” account at the server, then Click OK.
- 8 Click OK on both the Welcome to the Domain window, as well as the prompt to Restart the Computer.
- 9 From the System Properties window, click OK, and then click Yes to Restart the Computer.

Authenticate on the domain

- 1 From the Windows login window, depress the CTRL-ALT-DEL keys on the keyboard.
- 2 Make certain that your domain name is listed in the “Log on to:” textbox. (If you do not see a “Log on to:” field, click the Options button.
- 3 Enter the User Name and Password in the appropriate textboxes for the user who will be running Pathways at this workstation, and then click OK.

Note You must be logged onto the domain as “installer” in order to perform Pathways installation, Client Setup, or program updates.

Access Rights

One of the features of Windows XP Professional is increased security. System administrators have much greater control over user access to network resources as well as control over user rights and access to the local system. Pathways requires that users have Full Control of both the installation files that reside on the server as well as the Pathways directory that resides locally on each workstation. In order to install, or update the Pathways program, the user must have Administrator level access. This is due to the fact that during the installation or update, program components are being installed and entries are made to the Windows Registry.

Note Administrator level access is only needed during Pathways installation, Client Setup and program updates. The monthly Data and Graphics CD’s can be run by any regular Pathways user.

Important! Once Pathways is installed and Client Setup has been run, proper access rights will need to be applied to the local Pathways folder created during the Client Setup process. This includes the server if planning to run Pathways from that station as well. See the *Network Installation & Update Guide for Pathways* for details.

You are now ready to proceed with the installation of your Pathways product. Please refer to the *Network Installation & Update Guide for Pathways* for more information.

Note Prior to installing a Pathways product onto a network, the network operating system should be correctly installed and functioning on the server, and all workstations should be able to successfully attach and login to the server. A qualified computer technician should make any necessary adjustments.

Chapter 5 – Windows 2000 Professional Domain Client Configuration

Configure the Workstations - Overview

Verify that the server and workstations meet all minimum hardware and software requirements as published quarterly in the *CCC Technical Requirements* document. You can find this document located on the CCC website: <http://www.cccis.com/>. CCC strongly urges that the server and workstations meet or exceed our recommended hardware specifications to ensure the best performance.

When a Network Interface Card (NIC) is installed, Windows 2000 will automatically install the following required network components.

- Client for Microsoft Networks
- File and Printer Sharing for Microsoft Networks
- Internet Protocol (TCP/IP)

These are the only components necessary to get the network up and running. And for the most part, all of the default settings for these components will work just fine. The only area that needs careful consideration is how you plan to assign TCP/IP addresses to your workstations.

Note If your network is already set up and running correctly, and it is configured to use the TCP/IP protocol, then you may skip to the [Configure Network Identification settings and join the domain](#) section, later in this chapter.

The type of TCP/IP addressing scheme needed for the workstations, is determined by the design that was previously chosen for the server.

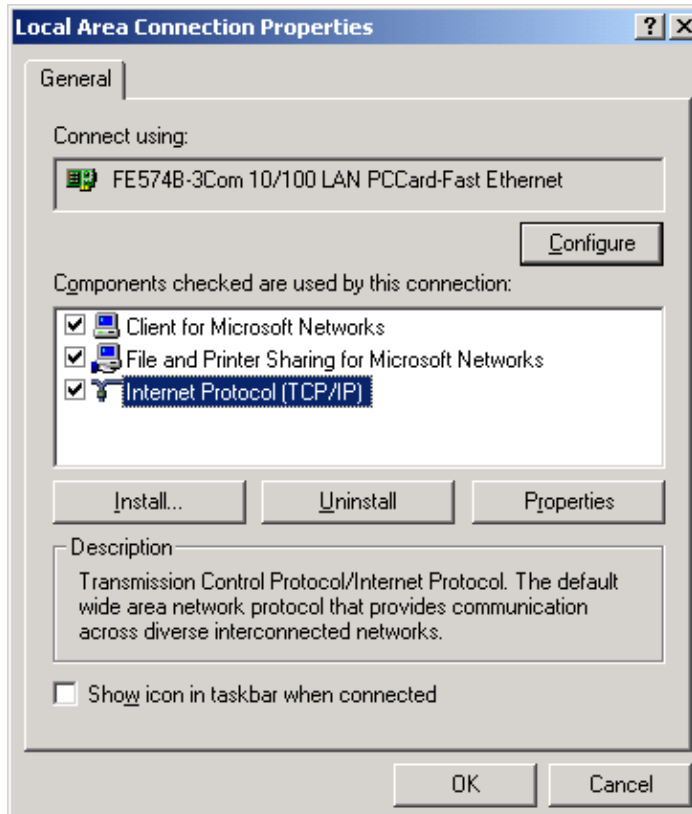
Choose from the list below, the same TCP/IP addressing scheme that was configured for the server, and then proceed to the appropriate section within this chapter.

- [ICS or Automatic Private IP Addressing](#)
- [Static IP Addressing](#)

Configure clients for DHCP or ICS

Whether you are going to use ICS or Automatic Private IP Addressing, the workstation configuration is identical. To verify that you have all of the necessary components and their configurations for this type of setup, follow these simple steps on each of your 2000 Professional workstations:

- 1 Log into Windows 2000 Professional as an Administrator.
- 2 Click Start > Settings > Network and Dial-up Connections.
- 3 Right-click the Local Area Connection, and then click Properties.
- 4 Verify that the components listed below are present. (If not, you can use the Install button to add the missing components.)



Note These are the only components necessary to get the network up and running. Additional components are not needed, and can probably be uninstalled. (Consult with your network technician to be certain.)

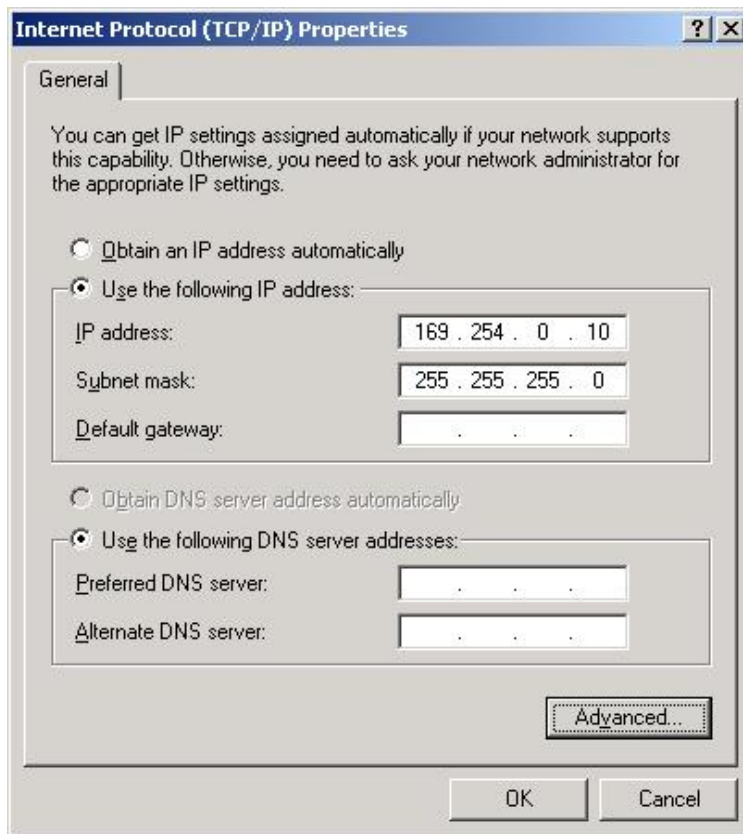
- 5 Click the Internet Protocol (TCP/IP) component, and then click Properties.
- 6 Click the “Obtain an IP address automatically” selection button, and then click the “Obtain DNS server address automatically” selection button.
- 7 When you are finished making changes, click OK to close the Internet Protocol (TCP/IP) Properties sheet.
- 8 Click OK to close the Local Area Connection Properties.

Note If the above section was just completed, skip to the Configure Network Identification settings and join the domain section later in this chapter.

Configure Static IP Addressing

To configure your Windows 2000 Professional clients with Static IP addresses, please follow these steps:

- 1 Log into Windows 2000 Professional as an Administrator.
- 2 Click Start > Settings > Network and Dial-up Connections.
- 3 Right-click the Local Area Connection, and then click Properties.
- 4 Click the Internet Protocol (TCP/IP) component, and then click Properties.
- 5 Click the "Use the following IP address" selection button.



- 6 Enter the IP Address and Subnet Mask values in the appropriate fields as shown above, and then click OK.

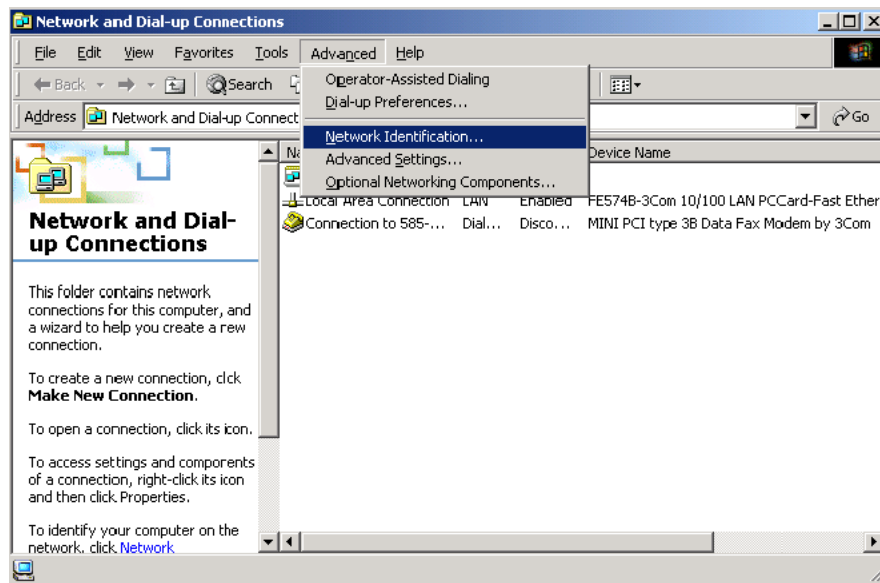
CCC recommends using a non-routable address range such as the following:

Subnet Mask:	255.255.255.0
Peer Server:	169.254.0.1
Workstation 1:	169.254.0.10
Workstation 2:	169.254.0.20

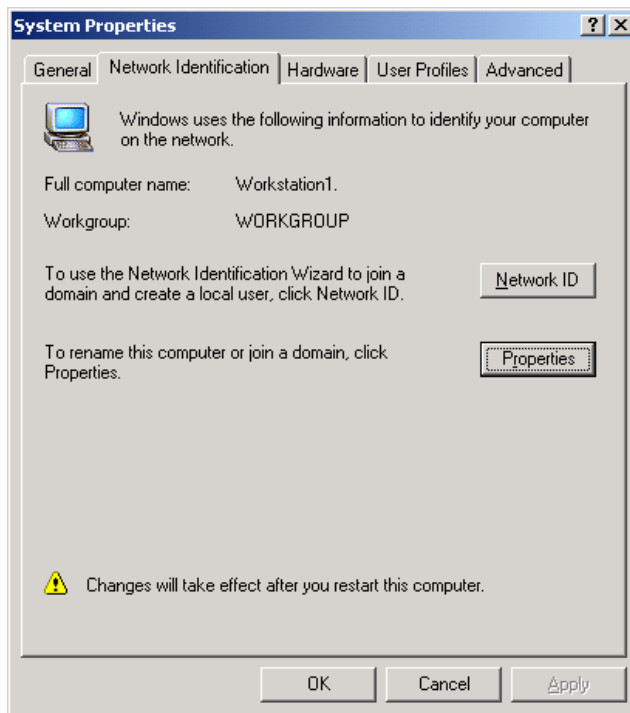
Important! Each system on the network must be configured with a unique IP address.

Configure Network Identification Settings and Join the Domain

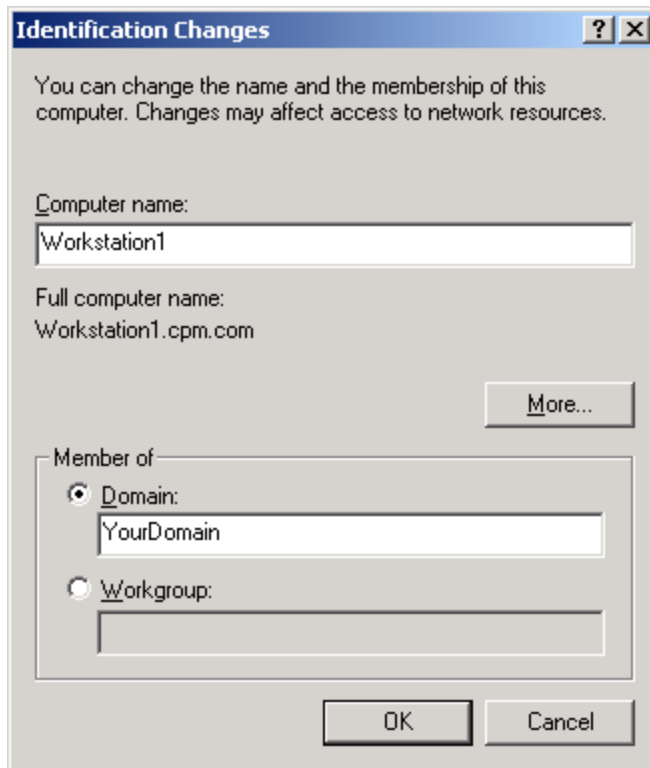
- 1 Log into Windows 2000 Professional as an Administrator.
- 2 Click Start > Settings > Network and Dial-up Connections.
- 3 Click Advanced from the menu bar at the top of the window, and then click Network Identification.



- 4 From the Network Identification tab, verify that the workstation has a unique computer name (e.g., Workstation1). No other computer on your network should have the same name.



- 5 Click the Properties button to join this workstation to the domain.
- 6 Click the Domain option in the Member Of tab, enter your domain name, and then click OK. The Domain login window appears.



- 7 Enter the User Name and Password of someone with permission to join the domain. Enter "installer" for the User Name, and whatever password you set when you created the "installer" account at the server, then Click OK.
- 8 At the Welcome to the Domain window, click OK. Click OK to restart the Computer.
- 9 From the System Properties window, click OK, and then click Yes to restart the Computer.

Authenticate on the domain

- 1 From the Windows Logon window, depress the CTRL-ALT-DEL keys on the keyboard.
- 2 Make certain that your domain name is listed in the "Log on to:" field. (If you do not see a "Log on to:" field, click the Options button.)
- 3 Enter the User Name and Password for the user running Pathways at this workstation, and then click OK.

Note you must be logged onto the domain as "installer" in order to perform Pathways installation, Client Setup, or program updates.

Access Rights

One of the features of Windows 2000 Professional is increased security. System administrators have much greater control over user access to network resources as well as control over user rights and access to the local system. CCC Pathways requires that users have Full Control of both the installation files that reside on the server as well as the Pathways directory that resides locally on each workstation. In order to install, or update the CCC Pathways program, the user must have Administrator level access. This is due to the fact that during the installation or update, program components are being installed and entries are made to the Windows Registry.

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Important! Once Pathways is installed and Client Setup has been run, proper access rights will need to be applied to the local Pathways folder created during the Client Setup process. This includes the server if planning to run Pathways from that station as well. See the *Network Installation & Update Guide for Pathways* for details.

You are now ready to proceed with the installation of your Pathways product. Please refer to the *Network Installation & Update Guide for Pathways* for more information.

Note Prior to installing a CCC Pathways product onto a network, the network operating system should be correctly installed and functioning on the server, and all workstations should be able to successfully attach and login to the server. A qualified computer technician should make any necessary adjustments.