Matchprint **Professional Server v3.0** for Xerox DocuColor 12

Network Guide for Windows 2000

Supports Dell Precision 650

Part number - KY0730483



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Introduction

This document is intended only to identify the initial configuration of the Matchprint Professional Server digital front end (**DFE**) as shipped from the factory, and to touch on some of the common changes you may need to make. This is not a comprehensive guide for all networking issues. You must have your **Network Administrator** determine the actual network configuration for the **Matchprint Professional Server**.

1. Initial Configuration

The Matchprint Professional Server ships with the following configuration:

Operating System and notable other software:

- Windows 2000 Server with Service Pack 2 installed
- Internet Information Server (IIS)
- Internet Explorer 5.5 with SP2 installed
- Adobe Acrobat Reader 5.05
- Matchprint Professional Server software version 3.0 (or higher)

Default Computer Logon:

• Logon = Administrator with no password

Networking:

- Computer Name = Matchprint Professional Server-DFE or similar name for factory testing
- Primary Workgroup or Domain = WORKGROUP
- Networking Protocol = TCP/IP
- TCP/IP address = Obtain an IP address automatically (from a DHCP server)
- Network Interface Card (NIC) = configured to Auto detect link speed and duplexing
- Additional Network Services installed:
 - File Services for Macintosh Print Services for Macintosh Print Services for Unix

The Matchprint Professional Server DFE software uses the built in Windows 2000 Server networking services, protocols, and printing services. These are standard services and allow the network administrator to easily integrate the Matchprint Professional Server DFE into existing networks. The Matchprint Professional Server DFE network is set initially to **WORKGROUP** so that initial testing can be accomplished prior to adding the Matchprint Professional Server DFE to a network domain.

2. Before changing the configuration

Before changing the Matchprint Professional Server DFE configuration you should contact your **Network Administrator** and determine how the networking services should be configured.

Things the Network Administrator needs to determine before any changes are made include:

- Computer Name The computer name can be changed to help clearly identify the Matchprint Professional Server to the intended client users. The computer name should be changed if more than one Matchprint Professional Server DFE is on the network (two computers can not have the same name on the same network).
- 2) Domain or Workgroup Is the Matchprint Professional Server DFE to be registered in a Domain? If so, you will need to know the Domain name, and the Administrator User Name and Password for that domain controller so that you can Create a Computer Account in the Domain. *Important:* If you are going to change the name of the computer, you should do so before changing the Workgroup or Domain.
- 3) Static IP address or DHCP server Will the Matchprint Professional Server DFE be assigned a static IP address, or will it be dynamically configured using a DHCP server? If it is assigned a static IP address you will need to know the IP Address, the Subnet Mask, and the Default Gateway to be used.
- 4) **DNS Server** Is there a DNS (Domain Name System) server(s) and if so what is its IP Address(es) and Domain.
- 5) **WINS Server** Is there a Primary and Secondary WINS (Windows Internet Name Services) server to be used? If so what is the IP Address(es).
- 6) Macintosh Computers The Matchprint Professional Server DFE has File Services for Macintosh and Print Services for Macintosh installed to allow Macintosh computers to print and share directories on the Matchprint Professional Server DFE. The Network Administrator should determine what the Default Zone (AppleTalk Zone) if any should be used.
- 7) Guest By default the Guest user account has been disabled. By disabling the Guest account, all network users will be required to be registered Users of the Domain or Workgroup the Matchprint Professional Server DFE belongs to, or of a *trusted* Domain. This provides better network security but may be more restrictive than the Network Administrator requires.

Once the above information is collected from the Network Administrator you can proceed to make changes.

Important! If the **Administrator** password is changed and/or forgotten, nobody can get in to change settings or services. There is no way to recover this password.

It is recommended the administrator create a backup administrator account and password.

3. Network Setup Procedures

Change Computer Name and Workgroup/Domain:

1. Logon to the Matchprint Professional Server DFE as the **Administrator**. Right-click on the **My Computer** icon and select **Properties**. Then Select the **Network Identification** tab:





2. To change the name of the computer and/or to change the Domain or Workgroup, select the **Properties** button. The following **Identification Changes** window is displayed:

Identification Changes	? ×					
You can change the name and the membership of this computer. Changes may affect access to network resources.						
Computer name:						
MPS-DFE-2000						
Full computer name: MPS-DFE-2000.						
Мо	re					
Member of						
O Domain:						
 Workgroup: 						
WORKGROUP						
OK. Car	ncel					

Figure 2

Initially, the Matchprint Professional Server is part of the WORKGROUP, which is default for Windows NT and Windows 2000 server. If you have a different workgroup defined, type that name in the box now, then click OK. A window titled **Network Identification** will appear stating "Welcome to the Workgroup". You must **restart** the computer for the changes to take place.

If you wish to add the Matchprint Professional Server to a **Domain**, select the **Domain** radio button and type the exact name of the default **Domain** you want the computer to be part of. Click **OK** and the **Domain Username And Password** window is displayed:

Domain Username And Password					
Enter the name and password of an account with permission to join the domain.					
Name:					
Password:					
	OK Cancel				

Figure 3

You must enter a valid Domain Administrator **User Name** and **Password**. Then click **OK**. If successful a window titled **Network Identification** will appear stating "Welcome to the *DomainName* domain". You must **restart** the computer for the changes to take place.

TCP/IP settings:

1. Logon to the Matchprint Professional Server DFE as the **Administrator**. To check or to change the TCP/IP settings right-click on the **My Network Places** icon and select **Properties**. The **Network and Dial-up Connections** window is displayed:

📴 Network and Dial-up	Connections				_ 🗆 🗙
File Edit View Fa	vorites Tools	Advanced	Help		
] 🖨 Back 🔻 🔿 👻 🔂	🛛 🔕 Search 🛛 🤤	Folders	🎯 History 🛛 😰 🧏	× 10 III+	
Name 🔺	Туре	Status	Device Name	Owner	
Make New Connection					
Local Area Connection	LAN	Enabled	Intel(R) PRO/100	System	
	Disable				
	Status				
	Create Short	:ut			
	Delete				
	Rename				
	Properties				
•					
Displays the properties of the selected connection.					
Carl					111

Figure 4

2. Right-click on Local Area Connection and select Properties. The Local Area Connection Properties window is displayed:

Local Area Connection	Properties	<u>? ×</u>			
General					
Connect using:					
Intel(R) PRO/10	00 MTW Network Cor	nnection			
,		Configure			
Components checked	are used by this conne	ection:			
 ✓ ➡ File and Printer ✓ ♀ AppleTalk Prot ✓ ♀ Internet Protoc 	 ✓ ➡ File and Printer Sharing for Microsoft Networks ✓ ♀ AppleTalk Protocol ✓ ♀ Internet Protocol (TCP/IP) 				
Install	<u>U</u> ninstall	Properties			
Description					
Allows your computer to access resources on a Microsoft network.					
Show icon in taskbar when connected					
		DK Cancel			

Figure 5

3. Click on Internet Protocol (TCP/IP) and then click the Properties button. The Internet Protocol (TCP/IP) Properties window is displayed. By default the Obtain an IP address automatically radio button, and the Obtain DNS server address automatically radio button are selected. For most up-to-date networks this should function correctly. For older networks, or to specify specific IP address and DNS server enter the information in the window below.

iternet Protocol (TCP/IP) Pro General	perties
You can get IP settings assigned this capability. Otherwise, you ne the appropriate IP settings.	d automatically if your network supports eed to ask your network administrator for
 Obtain an IP address autor 	matically
$\square \bigcirc \mathbb{C}$ Use the following IP addre	\$\$:
IP address:	
Subnet mask:	
Default gateway:	
Obtain DNS server addres Obtain DNS server addres	s automatically
Preferred DNS server:	
Alternate DNS server:	
	Advanced
	OK Cancel

Figure 6

To manually configure additional **DNS server** and **WINS server** options, select the **Advanced** ... button and enter the appropriate information as per your **Network Administrator's** instructions.

AppleTalk Zone:

To select the AppleTalk Zone this computer should appear in, click on **AppleTalk Protocol** (Figure 5) and then click the **Properties** button.

Use the arrow next to the box to bring up the list of available AppleTalk Zones.

AppleTalk Protocol Properties	<u>?</u> ×
General	
Accept inbound connections on this adapter	
This system will appear in zone:	
oakdale01	
OK	Cancel

Figure 7

Select the **AppleTalk Zone** you want the **Matchprint Professional Server** computer to appear in. Click **OK** when done.

If there are no AppleTalk zones listed, see the **No AppleTalk Zones** in section **4. Network Troubleshooting tips** below for a possible solution.

Network Interface Card (NIC):

The Matchprint Professional Server contains an integrated Intel Pro/100 VE NIC. This is configured to **Auto detect** the network linkspeed and duplex mode. For most up-to-date networks this should function correctly. Some older networks are not compatible with **Autodetect**. In that case you may have to manually configure the Intel Pro/100 VE NIC for you network speed and duplex mode. To check or change the NIC configuration:

- Logon to the Matchprint Professional Server DFE as the Administrator. There are several ways to get to the setup for the NIC card. For simplification, we'll continue from the Local Area Connection Properties window (Figure 5) above.
- 2. Click the **Configure** button. The **Intel(R) Pro/100 VE Network Connection Properties** window is displayed:

c el(R) PR General 7	.0/1000 MTW Ne Advanced Driver	twork Connec	tion Properties	nt
⊞ ⊒i	Intel(R) PRO/1000	MTW Network	Connection	
	Device type:	Network adapte	ers	
	Manufacturer:	Intel		
	Location:	PCI bus 3, devi	ce 14, function 0	
If you start th	are having problem ne troubleshooter.	s with this device	e, click Troublesh	poter to
			<u>I</u> roublesho	oter
<u>D</u> evice u	isage:			
Use this	device (enable)			_
			ОК	Cancel

Figure 8

In the middle of this window is listed the **Device status**. If Windows 2000 Server has detected the hardware (in this case NIC), and has loaded a driver for it, this box will report that '*This device is working properly*'. This only means the driver and the NIC are communicating properly to each other, not that the NIC and the LAN are communicating properly.

3. Click on the **Advanced** tab.

Intel(R) PRO/100 VE Network Conne	ction Properties	<u>?</u> ×
General Advanced Driver Resource The following properties are available for the property you want to change on the on the right. Property: Coalesce Buffers Enable PME Link Speed & Duplex PCI Bus Efficiency Receive Buffers Transmit Control Blocks	ces Power Management or this network adapter. Click e left, and then select its value Value: Auto Detect	
	OK Ca	ncel

Figure 9

Click on **Link Speed & Duplex** to highlight it. The default value is **Auto Detect**. To change the value, click the arrow in the **Value:** box and choose the fixed value that your **Network Administrator** has determined.

Network Interface Card (NIC) Diagnostics:

The integrated **Intel ® PROSet II** NIC software contains diagnostic tools to help verify that the NIC is functioning. To access these diagnostic tools:

1. Logon to the Matchprint Professional Server DFE as the Administrator. Go to the Start menu, and select Programs > Intel ® Network Adaptors > Intel ® PROSet II.



Figure 10

The Intel PROSet II Diagnostic window is displayed:

Intel(R) PROSet II	<u>×</u>
Action Tools Help	
Network Components	General Advanced Network Driver Diagnostics Link Config
Intel(R) PRU/1000 MTW Network Connect	
	Ethernet Address: 0008744F20C3
	Part Number: 000100-003
	IP Address: 32.78.118.68
	Network Driver Status: Loaded
	Network Status
	Link Speed 100 Mbps
	Activity Duplex Full
	Test Ca <u>b</u> le
	Details
	int _e l.
	-
Ready	OK Cancel

Figure 11

The **General** tab shows the general **Network Status** and **NIC status**. Click on the ? in the top right corner of the window and then click on any specific information within this window to get a popup description. The **Help** button can be used to get.

The **General** tab shows the **Network Status** including IP Address, Duplex and Link speed. The **Test Cable** button can be used to test the continuity of Network cable directly connected to the Server. The **Help** menu can be used to get.

	.e.e.e.e.	_
Intel(R) PROSet II		×
Action Tools Help		
Network Components	General Advanced Network Driver Diagnostics Link Config	
Intel(H) PH0/1000 MTW Network Connect		
	Select its new value on the right.	
	Setting: <u>V</u> alue:	
	Flow Control Both On	
	wake on Settings	
	Description:	
	control. Helps to	
	being dropped and	
	can improve overall network performance.	
	<u>R</u> estore Default	
Ready	OKCancel	

2. Click on the **Advanced** tab to see how this NIC is configured.



Figure 12 shows a simplified list of **Network Parameters** and **Current Values**. This is a similar but short list than in Figure 9. The default settings are pictured above.

3. To test the NIC, select the **Diagnostics** tab:

Intel(R) PROSet II			×	
<u>A</u> ction Tools <u>H</u> elp				
Network Components	General Advanced Netwo	rk Driver Diagno:	stics Link Config	
- Ga Intel(H) PHU/1000 M I W Network Connect	To run the selected diagnostics in a continuous loop, click the "Continuous" check box. To start diagnostics, click the "Run Tests" button.			
		0 1.1		
	Lest	Status	Pass / Fail	
	 Control negisters FIED Begisters 		0/0	
	EEPROM		0/0	
	Interrupt		0/0	
	Loopback		0/0	
	🗹 Link		0/0	
	Continuous	<u>B</u> un T	ests A <u>d</u> vanced	
•				
Ready			K Cancel	



- **Warning**: The **Loopback** box is checked by default. If you are connected to the network with an Ethernet cable, you must *un-check* the **Loopback** box before selecting **Run Tests** or you may hang the computer. If you want to run the **Loopback** test, remove the Ethernet cable from the back of the MPS DFE.
- Un-check the Loopback box and then click on the Run Tests button, click the Yes button and tests will commence. Results of the Run Tests diagnostics will be displayed in the Pass/Fail column of the Diagnostics window.

For additional network troubleshooting see section 4.Network Troubleshooting TIPS.

File Sharing:

There are several ways to setup sharing, however the easiest way to setup both **Windows** and **Macintosh** sharing is to use the **Computer Management** console. Folders can be created prior to entering the **Computer Management** console, or they can be created within the console. The following describes how to create and share a folder through the console:

1. Logon to the Matchprint Professional Server DFE as the **Administrator**. Right-click on the **My Computer** icon and select **Manage**. The **Computer Management** console window appears:

📮 Computer Management					
ActionYiew ← → 🔁 💽	🖸 🗟 😫 🗍 🕻	ğ			
Tree	Shared F 🔺	Shared Path	Туре	# Client Redirecti	Comment
Computer Management (Local)	R ADMIN\$	C:\WINNT	Windows	0	Remote Admin
🗐 🐔 System Tools	R⊒C\$	C:/	Windows	0	Default share
🗄 😥 Event Viewer	R IPC\$		Windows	0	Remote IPC
🗄 🖼 System Information	😡 print\$	C:\WINNT\System3	Windows	0	Printer Drivers
🕀 🎆 Performance Logs and Alerts					
🖻 戻 Shared Folders					
Open New					
Device Ma All Tasks					
Storage					
Disk Mana					
Disk Defra Refresh					
Logical Dri Export List					
E 😭 Removabl					
Create a new file share	*				

Figure 14

2. Expand the **Shared Folders** directory, and then click on **Shares** to highlight it. Now right-click **Shares** and select **New File Share**. The **Create Shared Folder** window is displayed (Figure 15).

Create Shared Folder	×	Browse For Folder	2 1
	Computer: MPS-DFE-2000	Pick a folder you'd like to share.	
Ref.	Folder to share: Browse		
	Share name:	My Computer	
	Share description:	Docal Disk (C:)	
	Macintosh share name:	Compact Disc (D:) Compact Disc (E:)	
	Accessible from the following clients:		
	Microsoft Windows		
	Novel NetWare		
	M Apple Macintosh	Folder: Local Disk (C:)	
	< Back Next > Cancel	OK Cancel New Fo	lder

Figure 15 and Figure 16

To create a shared folder for **Microsoft Windows** and for **Apple Macintosh** make sure both boxes are checked. Then click the **Browse** button to navigate to an existing folder, or to create a new folder. The **Browse For Folder** window is displayed (Figure 16).

3. To select an **existing folder**, navigate to and highlight the folder you wish to share. Then click **OK**. You are returned to the **Create Shared Folder** window (go to step 4).

To create a **new folder**, navigate to and select the drive or sub-folder you want to create the new folder in. It usually is best to create a shared folder at the top level of a drive. In Figure 16 above the **Local Disk (C:)** is selected. Click on the **New Folder** button.

		Browse For Folder
Browse For Folder	Browse For Folder	Pick a folder you'd like to share.
Additional Software AHT Drivers AhtPbuf Dell Documents and Settings Interpub Interpub Interput Folder: Local Disk (C:)	Additional Software Declamatic Additional Additional Software Declamatic Additional Additional Software	
Figure 17	Figure 18	Figure 19

A new folder is created as in Figure 17 above. The name of the folder is already highlighted to allow you to type a new name. Type in the name you want the folder to have (Figure 18) and press **Enter** to finish. Then click on the icon of the folder to highlight the folder (Figure 19). The new name should appear in the **Folder:** box before clicking **OK** (Figure 19). Click **OK** to return to the **Create Shared Folder** window. (Figure 20)

4. Type the **Share name:** in the box (Figure 20). This is the name of the folder as it will appear to client computers. If you have checked the **Apple Macintosh** box the name will appear in both as you type.



Figure 20

You may have a different name for Windows and Macintosh, but to simplify leave both the same so you know they are both pointing to the same folder. You can also type a **Share description** to help identify this particular shared folder if you have multiple shared folders defined. Click **Next** to continue.

5. The default permissions are **All Users have full control**. If you want to change the default permissions, select one of the three other options according to your needs.

If these default permissions are correct, click **Finish** to complete the set up of this shared folder.

Figure 21 and Figure 22

You will receive a confirmation that the folder has been shared for Windows and/or Macintosh clients (Figure 22). If you want to create another shared folder click **Yes** and you will be returned to Figure 15 (step 2). If you are done, click **No** and you will be returned to the **Computer Management** console:

📮 Computer Management				
Action ⊻iew ↓ ← → 1 💽 💽	🖸 🖫 🛿 😫 🗍 💭			
Tree	Shared Folder 🔺	Shared Path	Туре	# Client Redirecti Con
Computer Management (Local)	🗊 ADMIN\$	C:\WINNT	Windows	0 Ren
🗐 🚯 System Tools	∎C\$	C:\	Windows	0 Def
😥 🗊 Event Viewer	R IPC\$		Windows	0 Ren
🕀 强 System Information	MPS-DFE-2000 Share	C:\MPS-DFE-2000 Share	Windows	0
🕀 🎆 Performance Logs and Alerts	MPS-DFE-2000 Share	C:\MPS-DFE-2000 SHARE	Macintosh	0
🖹 🕞 Shared Folders	😡 print\$	C:\WINNT\System32\spool	Windows	0 Prin
Sessions				
Open Files Device Measurer				
Local Licers and Groups				
E Storage				
Disk Management				
Bisk Defragmenter				
Logical Drives				
🕀 🤮 Removable Storage				
🗄 🎲 Services and Applications	•			•

Figure 23

Here you can confirm the shares have been added successfully.

AppleTalk Seed Router:

WARNING! If more than one AppleTalk seed router exists on a physical network, all of them must be configured to work together. Enabling the **Matchprint Professional Server** system to be an AppleTalk seed router may bring down your network. There are specific rules that must be followed depending on your network routers. You **must** consult your **Network Administrator** before attempting this.

When your company uses all or mostly **Apple Macintosh** computers, the **Matchprint Professional Server** system may be the only Microsoft Windows based PC on your network. In that case, depending on your network routers, you may have to make the **Matchprint Professional Server** your AppleTalk seed router.

NOTE: If your network already has an AppleTalk seed router, there is no reason to enable the **Matchprint Professional Server** as a router. This may even reduce the Matchprint Professional Server productivity.

The following only describes how to access the AppleTalk routing configuration and does not attempt to give detailed instructions. Your **Network Administrator** should know how to correctly configure these settings for your network:

1. Have your **Network Administrator** Logon to the **Matchprint Professional Server** as the **Administrator**. Go to the **Start** menu, and select **Programs > Administrative Tools > Routing and Remote Access**.



Figure 24

2. The **Routing and Remote Access** window is displayed. Click on the name of the Matchprint Professional Server to expand the list. Then Right-click on **AppleTalk Routing** and select **Enable AppleTalk Routing**.

Routing and Remote According to the Remote Accordin	255			_ 🗆 ×
Action ⊻iew	🗈 🔢 🕼 😫			
Tree	AppleTalk Routing			
Routing and Remote Access	Adapters 🗸	Status	Net Range	
Houding and senior Access Server Status MPS-DFE-2000 (local) AppleTalk Routing	Enable AppleTalk Routing Disable AppleTalk Routing View	network not seeded	-	
	Refresh Export List Help			

Figure 25

3. The Local Area Connection Properties – AppleTalk configuration window is displayed.

cal Area Conne General	tion Properties	?]
Apple"	alk configuration	
Enable seed	routing on this network	
From:	0 To:	0
Zones		
Default zone:		v
New Zone	Get Zones Delete	:

Figure 26

Your **Network Administrator** will know how to configure the **Network range** values and will determine which **Zones** should be added, or new Zones created. When configured, click **OK** to close this window, and then close the **Routing and Remote Access** window.

4. Network Troubleshooting TIPS

The following is only a basic overview of some things to check if you are having networking issues. This information can help your **Network Administrator** to determine what changes may be needed to Matchprint Professional Server network configuration.

For network card diagnostics, refer to Network Interface Card (NIC) Diagnostics in section 3.

IPCONFIG and PING:

To help diagnose network connectivity problems there are two simple utilities that can be run from the **Command Prompt** application. They are **ipconfig** and **ping**. These command line utilities provide information that your **Network Administrator** can use to diagnose a problem.

1. Logon to the Matchprint Professional Server DFE as the **Administrator**. Go to the **Start** menu, and select **Run...** The **Run** window is displayed:





2. Type **cmd** and click **OK**. The **cmd** starts the **cmd.exe** or **Command Prompt** application. The command prompt window opens:



Figure 28

IPCONFIG

3. The first thing to try is **ipconfig**. This will report back information about the network that shows whether the Matchprint Professional Server is seeing the network. At the command prompt (C:\>_) type **ipconfig** and press the **Enter** key.





Figure 29 shows an example of an obvious problem Cable Disconnected.

C:\WINNT\System32\cmd.exe	<u>_ ×</u>
Microsoft Windows 2000 [Version 5.00.2195] (C) Copyright 1985-2000 Microsoft Corp.	
C:\>ipconfig	
Windows 2000 IP Configuration	
Ethernet adapter Local Area Connection: Connection-specific DNS Suffix . : kpgraphics.com IP Address	
C:\>	•

Figure 30

Figure 30 shows an example of a network that is responding correctly. The three required network items are listed here:

IP Address (of this server) Subnet Mask Default Gateway

IPCONFIG /ALL

4. Instead of **ipconfig**, you can also use **ipconfig /all** which will report even more information regarding the network.

C:\WINNT\System32\cmd.exe	
Microsoft Windows 2000 [Version 5.00.2195] (C) Convright 1985-2000 Microsoft Corn.	_
C:\>ipconfig /all	
Windows 2000 IP Configuration	-
Host Name : MPS-DFE-2000 Primary DNS Suffix : Node Type : Hybrid IP Routing Enabled : No WINS Proxy Enabled : No DNS Suffix Search List : kpgraphics.com Ethernet adapter Local Area Connection:	
Connection-specific DNS Suffix .: kpgraphics.com Description	t :5 51

Figure 31

Figure 31 shows an example of using **ipconfig /all**. Here, besides the three required items, you can see information about:

DHCP Server Enabled or Disabled and the DHCP Server's IP Address DNS Server WINS Server

IP address Lease Obtained from DHCP server and the Expiration

Lack of information, or incorrect information in any of these lines can help the **Network Administrator** determine where the connectivity is failing.

Also see Automatic Private IP Addressing (APIPA) below.

IPCONFIG /RELEASE and **IPCONFIG /RENEW**

5. Each time the computer is Shutdown and/or Restarted the operating system will first Release its IP address back to the DHCP server before shutdown. This makes the IP address available for other computers on the network requesting an address. Upon restart, the operating system will make a request to the DHCP server to Renew its lease of an IP address. Depending on several factors, the renewed IP address may not be the same one that the was released previously.

When troubleshooting networking issues it is not always efficient to **Restart** the computer each time a possible fix is made. Instead using the **ipconfig** command from the command prompt can allow you to instantly **Release** and then **Renew** leases from the DHCP Server.

- At the command prompt (C:\>_) type ipconfig /release and press the Enter key. This may take
 a few moments.
- When the command prompt returns, type **ipconfig /renew** and press the **Enter** key. This may take a few moments. When completed you should see a valid IP Address, Subnet Mask and Gateway listed. If not, you will need to continue troubleshooting.

NOTE: You should always use ipconfig /release before using ipconfig /renew.

NOTE: Even after **ipconfig /renew** has shown that a lease has been successful, you must properly Restart the computer to make sure all of the computers networking services are updated with the new information.

PING

6. Ping can be used to directly test the ability of one computer to communicate to another using the IP address or Computer Name (HostName). Ping eliminates the higher level network Protocols and verifies that the network interface cards (NIC) are properly transmitting and receiving TCP/IP packets. Pinging the IP address of another computer shows whether both computers have a valid IP address for the network, and that any routers between the two computers are properly passing the address from one segment to another. Pinging the Computer Name (HostName) verifies that the network DNS server and client computer are both properly configured. A DNS Server (*simplified*) stores and updates HostName-to-IPAddress tables.

To use **Ping** to search for a specific IP address, at the command prompt (C:\>_) type **ping** followed by the **specific IP address** you want, then press the **Enter** key.



Figure 32

Figure 32 shows an example of a successful ping for a specific IP address.

To use **Ping** to search for a specific **HostName**, at the command prompt (C:>_) type **ping** followed by the **specific Computer Name** you want, then press the **Enter** key.

C:\WINNT\System32\cmd.exe	_ 🗆 🗙
Microsoft Windows 2000 [Version 5.00.2195] (C) Copyright 1985-2000 Microsoft Corp.	
C:\>ping MPS-DFE-2000	
Pinging MPS-DFE-2000 [32.78.118.87] with 32 bytes of data:	
Reply from 32.78.118.87: bytes=32 time<10ms TTL=128 Reply from 32.78.118.87: bytes=32 time(10ms TTL=128 Reply from 32.78.118.87: bytes=32 time(10ms TTL=128 Reply from 32.78.118.87: bytes=32 time<10ms TTL=128	
Ping statistics for 32.78.118.87: Packets: Sent = 4, Received = 4, Lost = 0 (0% loss), Approximate round trip times in milli-seconds: Minimum = 0ms, Maximum = 0ms, Average = 0ms	
0:∖>	
	-

Figure 33

Figure 33 shows an example of a successful ping for a specific Hostname.

Automatic Private IP Addressing (APIPA) – 169 IP Address

APIPA is a feature of the Windows 2000 TCP/IP protocol that self-configures an IP address and subnet mask in the absence of a **static configuration** and a **DHCP server**.

APIPA randomly selects a unique IP address from the range **169.254.0.1** through **169.254.255.254** and sets the subnet mask to **255.255.0.0**. **APIPA** allows home users and small business users to create a functioning, single subnet TCP/IP network without having to manually configure the TCP/IP protocol or set up a **DHCP server**.

Automatic private address configuration

You use **APIPA** to automate TCP/IP address configuration for **single-subnet networks** that do not contain a **DHCP server**.

By default, a computer running Windows 2000 first tries to contact a **DHCP server** on the network to dynamically obtain configuration for each installed network connection.

- If a DHCP server is reached and the leased configuration is successful, TCP/IP configuration is completed.
- 2) If a DHCP server is not reached, the computer instead uses APIPA to automatically configure TCP/IP. When you use APIPA, Windows 2000 determines an address in the reserved IP address range from 169.254.0.1 through 169.254.255.254. This address is used as a temporary IP address configuration until a DHCP server is located. The subnet mask is set to 255.255.0.0.

The **APIPA** range of IP addresses is reserved by the **Internet Assigned Numbers Authority (IANA)**. Any IP addresses within this range are not used on the **Internet**.

APIPA eliminates IP address configuration for single-network small office or home office networks that are not connected to the **Internet**.

The DHCP client appears to have automatically assigned itself an IP address that is incorrect for the current network.

Cause: The Windows 2000 client could not find a **DHCP server** and has used the **APIPA** feature to temporarily configure its IP address.

In some larger networks, disabling APIPA might be desirable for network administration.

Solution: First, use the **ping** command to test connectivity from the client to the **DHCP server**. Once you know the **DHCP server** is functioning and can be **pinged** by the client, your next step would be to either verify or manually attempt to **renew** the client lease (see **IPCONFIG /RELEASE** and **IPCONFIG** /**RENEW** above).

No AppleTalk Zones:

There may be cases when the AppleTalk Zone list is empty even though the all variables of your AppleTalk network are functional. This usually appears when the computer is setup in one network environment and configured and then moved to another network environment. This can occur on a new install because the Matchprint Professional Server system is setup and tested in one environment and then shipped to a customer location with a different environment.

ppleTalk Protocol Properties	? ×
General	
Accept inbound connections on this adapter	
This system will appear in zone:	
	\{
OK	Cancel

Figure 34

Figure 34 shows an example of an empty AppleTalk Zone list. The following procedure may resolve this issue.

 Logon to the Matchprint Professional Server DFE as the Administrator. Right-click on the My Network Places icon and select Properties. The Network and Dial-up Connections window is displayed:

📴 Network and Dial-up	Connections				_ 🗆 ×
File Edit View Fa	vorites Tool	s Advanced	Help		-
$ = Back \to \to \bullet \mathbf{E}$	📿 Search	Folders (🎯 History 🛛 🚰 🧏 🗄	X 🛛 🔳	
Name 🛆	Туре	Status	Device Name	Owner	
Make New Connection Local Area Connection	I AN Disable Status Create Sho Delete Rename Properties	Fnahled	Intel(R) PRO/100	System	
•					•
🖳 Displays the properties	of the selected	connection.			

Figure 35

2. Right-click on Local Area Connection and select Properties. The Local Area Connection Properties window is displayed:

Local Area Connection Properties ? 🔀
General
Connect using:
Intel(R) PR0/100 VE Network Connection
Configure
Components checked are used by this connection:
Description Allows your computer to access resources on a Microsoft network. Show icon in taskbar when connected
OK Cancel

Figure 36

- 3. Un-check the box next to AppleTalk Protocol to disable it. Click OK, and then close the Network and Dial-up Connections window.
- 4. You must **Restart** the **Matchprint Professional Server**. Go to the **Start** menu and select **Shutdown**, make sure **Restart** is selected in the **What do you want the computer to do?** box and click **OK**.
- After the computer has restarted, back into the Local Area Connection Properties window (Figure 36) and check the box next to AppleTalk Protocol to enable it. There may be a long pause of a minute or more as the AppleTalk protocol starts up and polls the network.
- 6. When the pause is over, click on **AppleTalk Protocol** (Figure 36 above) and then click the **Properties** button.

Use the arrow next to the box to bring up the list of available AppleTalk Zones. Select the **AppleTalk Zone** you want the **Matchprint Professional Server** computer to appear in. Click **OK** when done.

Click OK to close the Local Area Connection Properties window, and then close the Network and Dial-up Connections window.