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Setting up the network server

This chapter describes environments that typically include one or more Novell NetWare and Windows NT 4.0 network servers that share printing to the DocuColor 2006. It describes setting up servers that use IPX/SPX or TCP/IP protocols for communicating with the printer.

The chapter includes guidelines for setting up direct communication from Windows NT 4.0 and UNIX workstations, where a network server is optional. It also outlines the requirements for network clients to print to the DocuColor 2006 and to run the Fiery WebTools and utilities.

For specific Novell procedures, refer to your Novell documentation.

The DocuColor 2006 can accept jobs concurrently from NetWare, Windows NT 4.0, and AppleShare servers, as well as jobs sent directly from Windows NT or UNIX workstations. Because AppleShare servers require no special configuration, they are not discussed in this section, except for their use in the NT 4.0 Windows environment.

Support for Fiery utilities

The Fiery utilities (ColorWise Pro Tools and Fiery Link) are supported over the TCP/IP platform on Windows 95/98, Windows 2000 and Windows NT 4.0 platforms. More information is provided in later chapters, according to network type.

Printing on a NetWare 3.x, 4.x or 5.x network

The NetWise™ features built into the DocuColor 2006 supports the following network operating environments:

- NetWare 5.x—Bindery and Novell Directory Services (NDS)
- NetWare 4.x—Novell Directory Services (NDS)
- NetWare 3.x—Bindery services
- Servers running NetWare 4.x in bindery emulation mode

The term *bindery server* refers to a Novell file server running NetWare 3.x or running NetWare 4.x and NetWare 5.x in emulation mode.

The term *NDS* describes components of a NetWare operating system running NetWare 4.x in native mode.

Ethernet-based and Token Ring-based NetWare networks support the IPX/SPX protocol. Token Ring-based NetWare networks also support TCP/IP.



Setting up a NetWare environment correctly requires the cooperation of the Novell network administrator. You must have administrator privileges on the network to create new NDS or bindery objects.

NetWare clients print to the DocuColor 2006 through the Novell network server. Server setup and client network setup are outlined in this chapter.

For information about client setup and printing refer to the installation and printing chapters that are appropriate for the operating system.

The DocuColor 2006 can receive print jobs from NetWare clients over the Ethernet or Token Ring network topologies. During printer setup, you select the frame type(s) that will be used for communication between the DocuColor 2006 and the network servers. Frame type refers to the format of a communications packet; frame types are specified in a startup file when the NetWare server (or any other workstation) loads its network drivers.

IPX-supported client workstations running Windows 95/98 and Windows NT 4.0 communicate directly to the printer, not through the NetWare server. Windows 2000 does not support the web-based Fiery utilities.

Overview of IPX printing to the DocuColor 2006

Setting up the DocuColor 2006 is similar to setting up any other PostScript printer on the network. The following information is useful for experienced system administrators.

The DocuColor 2006 with IPX connections has these characteristics:

- NetWare 3.x, 4.x and 5.x are supported directly. NetWare 4.x is also supported through bindery emulation.
- A minimum connection to the DocuColor 2006 consists of a NetWare file server, a NetWare print server, and a NetWare queue.
- A single directory tree (for NetWare 4.x) and up to eight bindery servers can be configured simultaneously. This limit is the same for Ethernet or Token Ring configurations.
- The DocuColor 2006 searches for print jobs on one NetWare print server per bindery server.
- Each print server can store jobs for any print connection on the DocuColor 2006.
- Windows 95/98 and Windows NT 4.0 workstations (whether a Novell server is present or not) can use IPX/SPX protocols for communicating with the printer directly or use Fiery utilities (ColorWise Pro Tools and Fiery Link).

NetWare file servers support the creation of print queues, which are storage areas for print jobs. When a client on a remote workstation decides to print, the job is directed to a print queue on the NetWare file server and spooled to the NetWare server disk, freeing up the client workstation.

The queues on the NetWare server must be named to match the Direct connection, Print queue, and Hold queue on the printer. The NetWare queue names should be given one of the following lower case extensions in English:

_print

_hold

_direct

You do not have to rerun Setup when adding or removing a NetWare queue, but you should initialize these settings by powering the printer off and on after a queue is created or removed.

When the DocuColor 2006 is configured to connect to a NetWare server, it polls the NetWare server for jobs in each of its queues. If jobs are found, they are transferred over the network to the matching connection. For example, jobs from the NetWare queue with the `_print` extension are sent to the Print queue. While a job is processed and printed, a record of the job is created. You can access the Job Log containing these records at any time.

Configuring a NetWare 3.x, 4.x or 5.x server for printing

Use this section when you set up a NetWare file server so that networked users can print to the DocuColor 2006 from their workstations and the printer can obtain jobs from the NetWare server.

For *each* NetWare file server that you configure, follow these general steps:

- Ensure that the server is connected to a functioning IPX network.
- Log in as the Supervisor from a PC connected to the NetWare file server.
- For NetWare 4.x and 5.x installations, set up an NDS connection.
- For NetWare 4.x and 5.x in emulation mode, set the bindery context.
- For NetWare 3.x and for NetWare 4.x and 5.x in bindery emulation, set up a file server, a print server, and a print queue for the DocuColor 2006.

More detail is provided in subsequent sections and in your NetWare documentation.

With bindery services, you can route all DocuColor 2006 print jobs through the same NetWare file server, or you can configure more than one file server to handle DocuColor 2006 jobs.

The functions you perform on the Novell server, on the DocuColor 2006 and on the client workstation, are summarized in the following tables. Complete the operations on the server first, then at the DocuColor 2006, and finally at the client workstation.

Configuring NDS Connections

| On the NDS File Server | In WebSetup | At the client workstation |
|--|--|--|
| <p>In NetAdmin:</p> <p>Create NDS print queues</p> <p>Create the NDS printer and assign print queues</p> <p>Create the print server and assign the printer</p> <p>Configure users of the Print Queue</p> | <ul style="list-style-type: none"> • Port Setup: Ethernet Setup • Protocol Setup: IPX/SPX Setup—select frame type(s) • Service Setup: PServer Setup and NDS Setup • Select Root • Browse to select print server • Specify print queue search root (optional) • Set Polling Interval | <p>Install user software</p> <p>For printing: Connect client to print queues that you set up on the NetWare File Server (Associated with the Print Server selected in NDS Setup).</p> <p>For running the Fiery utilities: Configure the connection to the printer.</p> |

Configuring a bindery connection

| On the Bindery File Server | In WebSetup | At the client workstation |
|--|--|---|
| <p>In PConsole:</p> <p>Select up to 8 NetWare File Servers</p> <p>For <i>each</i> File Server:</p> <ul style="list-style-type: none"> • Configure the print server • Configure the print queue • Configure the users of the print queue | <ul style="list-style-type: none"> • Port Setup: Ethernet Setup • Protocol Setup: IPX/SPX Setup—select frame type(s) • Service Setup: PServer Setup and Bindery Setup • Add up to 8 file servers • Set Polling Interval | <p>Install user software</p> <p>For printing: Connect client to print queues that you set up on the NetWare File Server (Associated with the Print Server selected in Bindery Setup).</p> <p>For running the server utilities: Configure the connection to the printer.</p> |

Setting up an NDS connection

In NDS, all NetWare entities (objects) are organized in a hierarchical tree structure. Objects have a name, properties, and a context that defines the location of the object in the directory tree. For the DocuColor 2006, you must define a printer, a print server object, and one or more print queue objects. Objects are created in NetWare administrator programs, such as PConsole, NetAdmin, or NetWare Administrator.

The top-level object is known as the [Root] object. The name of the [Root] object is also the name of the tree. Below the [Root] are other objects: *containers* that consist of other objects or *leaf* objects that do not contain other objects. Access to objects is controlled by rights that are defined as properties of each object. Rights are established by system administrators.

Setting the NetWare 4.x or 5.x bindery context

You can connect only one directory tree to the DocuColor 2006. If you need to connect additional NetWare 4.x or 5.x servers, you can do so by using bindery emulation, which causes the 4.x or 5.x server to behave like and be accepted as a NetWare 3.x server.



Keypoint: *The selected file server must be in a different tree from that selected in NDS Setup.*

Up to eight bindery servers, in native 3.x or 4.x or 5.x emulation mode can connect to the DocuColor 2006.

In order to set up the NetWare 4.x or 5.x server in bindery emulation mode for printing to the DocuColor 2006, the system administrator must:

- Determine the Directory Services path to the container in which the print server and the print queue for the DocuColor 2006 will be created. The container defines the *bindery context* for the network structure.
- Edit the network startup file to set the bindery context.
- Activate the new bindery context.

Setting up a NetWare print queue for bindery

For NetWare 3.x and for 4.x or 5.x in emulation mode, the NetWare print server and print queue for DocuColor 2006 are created and configured from NetWare Print Console (PCONSOLE), a utility that is stored in the NetWare Public directory.

As with NDS, create several NetWare entities on a Novell server, then select them in the Network Setup.

Setting up NetWare Windows clients for printing

Before setting up client workstations for printing, ensure that you perform Network Setup on the DocuColor 2006 and that the settings reflect the entities you created in the NetWare administrator utilities.



For printing to the DocuColor 2006, connect all Windows clients to a Novell NetWare server and permit them to connect to the NetWare print server or servers on which you defined a print queue.

After the Novell server and the DocuColor 2006 have been set up, client setup consists of the following:

- Installing the networking protocol, binding it to the network adapter card, and permitting the client to log in to the NetWare file server.

On Windows 95/98 and Windows 2000 workstations, both the IPX/SPX-compatible protocol and the Client for NetWare Networks should be loaded from the Network Control Panel.

On Windows NT workstations, Client Service for NetWare (CSNW) should be installed. Use the CSNW option in the Control Panel to set printing options and specify a preferred NetWare server.

- Setting up the DocuColor 2006 as a PostScript or PCL printer by installing a PostScript or PCL printer driver and the DocuColor 2006 PPD or PDD (PostScript or PCL printer description file).
- Adding a network port and connecting the workstation to one or more NetWare queues that have been defined for the DocuColor 2006.

Refer to the chapter *Connecting to the network* for details on how to connect to Windows 95/98 and Windows NT 4.0 workstations

- Installing other Fiery software, such as Color Reference files.

Refer to the chapter *Installing the Fiery Software for Windows and Macintosh* for details.

The DocuColor 2006 on a TCP/IP network with Windows NT 4.0

When a Windows NT 4.0 workstation is configured to connect to the DocuColor 2006 using TCP/IP, it can print directly to the printer. If the workstation shares the printer over the network, it is acting as a print server to Windows NT 4.0 clients. The client workstations print to the DocuColor 2006 by printing to the Windows NT 4.0 print server. Printing can then be monitored and controlled at the Windows NT 4.0 server.

With TCP/IP protocols loaded, you can also run Fiery WebTools and utilities from a Windows NT 4.0 or Windows 95/98 workstation.

The Windows NT 4.0 server can also use AppleTalk protocols for printing. When creating a printer to share with AppleTalk users, do not *capture* the printer, as this forces all users to print to the server rather than directly to the printer. If you capture the printer, print connections will not be displayed in the Mac OS Chooser.

Ensure that the following are true when TCP/IP network connections are made:

- Ensure that the IP addresses are valid for the DocuColor 2006 and for any workstations that will print to it or run Fiery utilities.
- In Printer Setup, enable TCP/IP and enter the IP address, Subnet mask and Gateway address for the DocuColor 2006. You can enter these addresses manually or use DHCP, RARP, or BOOTP protocols to assign them dynamically.
- Ensure that the DocuColor 2006 name and address are listed in a domain name server (DNS) or a hosts name database used by the system.
- Ensure that your system host table includes the correct internal name for the DocuColor 2006 as a remote printer.
- For Windows NT 4.0, install the DocuColor 2006 PostScript and PCL printer driver files on the Windows NT 4.0 server from the User Software CD.
- Repeat the installation for everyone who prints to the DocuColor 2006. Each server and workstation running the Fiery utilities with TCP/IP also needs the TCP/IP protocol and the Fiery utility software.

Configuring a Windows NT 4.0 server

Use the following procedure to configure a Windows NT 4.0 server to communicate with the DocuColor 2006. Basic steps include:

- Load the TCP/IP network protocol and configure it with an IP address, Subnet Mask, and Gateway.
- Enter the host name of the DocuColor 2006 in the host database
- Perform Printer Setup.
- On the Windows NT 4.0 server, create a printer for each print connection, install the appropriate printer drivers, and (optionally) share the printer on the network.
- Enter the host name and remote printer name of the DocuColor 2006 in the printer connection.
- If the Windows NT 4.0 server is also a workstation, install the Fiery utilities.

More detail is provided in subsequent chapters and in your Microsoft documentation.

Adding the DocuColor 2006 to the TCP/IP network (Windows NT 4.0)

If your TCP/IP network consists of Windows NT 4.0 servers and Windows NT 4.0 clients, perform the following procedure.

1. Register the IP address of the printer in the host name database used by your system.

For installations that do not have a system administrator or a central host name database, add the printer to the **hosts** file on the Windows NT 4.0 server.

Add the printer to the **hosts** file on any workstations that have TCP/IP loaded and will use the Fiery utilities.

The Windows NT 4.0 hosts file provides compatibility with the UNIX hosts file. The file is used as a local Domain Name Services (DNS) equivalent. It has the same format as the /etc/hosts file on the UNIX servers:

IP Address<TAB>hostname<TAB>#comments

where <TAB> indicates that you press the Tab key.

To determine the IP Address and Server Name of your system, print a configuration page from the DocuColor 2006 control panel.



Type the entry without any spaces, but substitute the values appropriate for your environment. The host name should be the same name you gave to the DocuColor 2006 in the Server Setup on the control panel.

A sample entry for the DocuColor 2006 as the remote printer is
127.0.0.1<TAB>DocuColor<TAB>#Marketing_printer



If the printer has already been defined in an /etc/hosts file or equivalent host name database on a UNIX workstation on our network, you should use the same host name that is used for the remote printer in the /etc/printcap file.

2. Perform Printer Setup to support TCP/IP printing.

Enter the options in Protocol Setup. Enter the values for the IP Address of the printer, Subnet Mask, and Gateway Address.

Installing the DocuColor 2006 as a shared printer

The first step in creating a printer is installing the Adobe PostScript printer driver files, which gives your applications access to some printer features. For every workstation that will print directly and independently to the DocuColor 2006, refer to the chapter *Installing user software in a Windows environment* for the appropriate operating system.

If you are an administrator running a Windows NT 4.0 server or workstation, you can also create a printer and share it with Windows NT 4.0 clients on the network. When a printer is shared, Windows NT 4.0 clients who are not able or who are not given permission to establish an independent network connection to the printer can still print through the server.

You can specify sharing of the printer at any time. If you have not yet installed the DocuColor 2006 printer files on the Windows NT 4.0 print server, do so now.

If you have already installed the printer files on the Windows NT 4.0 server, refer to your Windows documentation for information about sharing the server.

If more than one DocuColor 2006 printing connection (for example, Print queue and Hold queue) is published, you may want to create a printer for each print connection so that you and other users can print to each queue directly.

Configuring clients of a Windows NT 4.0 or Windows 2000 server

Each client of a Windows NT 4.0 server is already using a network protocol to communicate with the server. Each client can print to the DocuColor 2006 if the printer is shared by a Windows NT 4.0 or Windows 2000 server or workstation. In that case, the client workstation does not have to use the same network protocol to connect to the Windows NT 4.0 or Windows 2000 server as the server uses to communicate with the printer.

1. For Windows NT 4.0 client workstations, before printing, connect to the print server and select the printer.
2. Right-click the icon and select the **Open** option.
3. Select **Yes** to have Windows set up the printer.

After clients have selected the printer, they can choose it from Print Setup, Page Setup or Print dialog box of their application. Clients can change printing options for their own job, but printer properties are not selectable. When a client selects **Print**, the job is transmitted to the Windows NT 4.0 or Windows 2000 print server and on to the selected queue on the DocuColor 2006. The job is listed in the Print Manager on the client workstation, and the administrator can track it in the DocuColor 2006 window in the Print Manager on the Windows NT 4.0 or Windows 2000 print server.

Configuring the server and client workstations for Fiery WebTools

Fiery WebTools provide access to many printer functions via the Internet or corporate intranet, providing additional flexibility in remote management. You can access the Fiery WebTools from a Windows 95/98, Windows 2000, Windows NT 4.0 or Mac OS workstation.



Fiery WebSetup is supported for Windows 95/98, Windows 2000, and Windows NT 4.0 only.

Setting up Fiery WebTools on the printer

1. In Network Setup, enable TCP/IP.
2. Enter a valid, unique IP Address and Subnet Mask for the printer. If necessary, enter a Gateway Address.
3. Enable Web Services.
4. In Printer Setup, confirm that the Print Queue is published.

Setting up Fiery WebTools on a client workstation

1. Enable TCP/IP networking.
2. Enter a valid, unique **IP Address** for the printer and **Subnet Mask** for the workstation. If necessary, enter a **Gateway Address**.
3. Install an Internet browser that supports the Java language and frames, such as Internet Explorer 4.x or higher or Netscape Navigator 4.x or higher.

Accessing the Fiery WebTools

1. Start the Internet browser.
2. Enter the **IP Address** or DNS name of the printer.
3. Press **Enter**.
The Fiery home page is displayed. Select the name of a particular WebTool to use. For more information, refer to the chapter that is specific to the tool.
4. Select the **Configure** button and enter required information to restrict user access to certain WebTools.

Changing the WebLink destination

1. Start the Internet browser.
2. Enter the **IP Address** or **DNS name** of the printer.
3. Enter the Administrator **password** (if required) and select **OK**.
4. Press the **Control** key (Mac OS) or **CTRL** key (Windows) as you select the **WebLink** button.
5. Enter the **new WebLink address (URL)** and select **OK**.

The printer on a network with UNIX workstations

When a UNIX workstation is configured with the lpd protocol and connected to the printer over a TCP/IP network, it can print directly to the DocuColor 2006.

Setting up UNIX workstations requires an administrator with root privileges. After the initial configuration, UNIX users simply submit print jobs to a named printer.

The job management tools, along with the other Fiery utilities and Fiery WebTools, are not available on the UNIX platform. A Windows or Mac OS computer on the same network as the UNIX computer that is set up to use TCP/IP for printing to the DocuColor 2006 can use the job management tools to manage print jobs that originate from all workstations on the network.

Setting up the printer in a UNIX environment has the same requirements as setting up any printer or new device:

- A distinct IP address is needed for the printer and for each workstation on the network.
- The printer is assigned a name that is associated with the IP address.
- The IP address of the printer must be registered for the network in a host database and also on the printer itself.
- The Print queue or the Hold queue (or both) must be published.



lpd printing to the Direct connection is not supported.

The DocuColor 2006 has a printer controller that understands lpd protocols.

The remote printer name (rp in the /etc/printcap file) must be used for successful communication and must be either **print** or **hold**. The remote printer name is also used in setting up Windows NT 4.0 workstations or servers that connect to the printer over TCP/IP. Enter the remote printer name when you set up your printer in the Add LPR Compatible Printer box.

Setting up the printer on TCP/IP networks

Every host machine on a TCP/IP network, including the printer, must have a unique 32-bit Internet address (IP address). Workstations on a TCP/IP network can print directly to the DocuColor 2006 as a remote printer, or can print to a Windows NT 4.0 server or UNIX workstation acting as a print server. Since the printer spools jobs and acts as a print server, there is no advantage in placing another print server between a workstation and the printer. If you choose to do so, however, there is no difference in setup except that a client workstation does not have its own spooling area.

Setting up printing on UNIX systems

1. Specify the appropriate settings in Server Setup.
2. Specify the appropriate settings in Network Setup. Enter a valid IP address, Subnet Mask, and Gateway Address for the printer.
3. Specify the appropriate settings in Printer Setup. Publish the Print queue and/or Hold queue.

Setting up TCP/IP for communication with the printer

1. The superuser (root login) must add the printer to the IP host table of the network or other system database of network printers.
2. In the file or utility used by your network, specify the remote printer name, the print server protocol, the queue, and the spool file for the assigned printer name.
3. Make the printer available to other network users.
4. Verify the TCP/IP connection. From any workstation on the network, access the command prompt and type the following:

ping <IP address>

After the printer is set up as a network printer, you can also type:

ping <host name>

The server should respond with a reply that includes the printer IP address. Some systems will respond with a continuous display of output from the IP address. To stop the output, press **Control-C**. You can use the ping command at any time.