

NT Network Printing

BY GUY C. YOST

Using a direct-connect networked printer is a common and easy way to share printers. Internal and external print server devices such as Hewlett-Packard's JetDirect and Intel's NetPort are commonly available for \$240 to \$350, depending on the number of printer connections supported. Use of dedicated print server devices has become so common that many of us have forgotten that printers can be shared without them. Remember what we used to do before the "black-box" took over?

Recently, I received a call from a client when one of their older black boxes had rolled over and died after six years of service. Following a brief memorial service, the black box was tossed into the trash. Panic soon broke out; the boss and 10 others needed to print reports pronto. How in the world would they print to that printer until they got a replacement? Although I've mentioned many times that they should have a spare on hand, this non-profit organization lives by the constant zero budget rule. So I suggested that the 98 pound receptionist carry the 98 pound HP Color LaserJet around to all of the offices that needed to print. They were not amused.

"Well," I told them "you can connect the printer to the receptionist's PC and share it using standard Microsoft peer-to-peer networking." I was surprised to learn that they had no idea that could be done. After walking them through the connection and share process, people were soon printing. To the boss, it must have seemed to be some

kind of voodoo magic. I got a call from him after the mess, but surprisingly he wasn't happy.

"You mean we've been buying these #@!\$%! things for no reason? We're a non-profit organization! We can't afford to" I explained the convenience and performance of the devices, but yes you could share printers without them. As it turns out, the printer is still attached to the receptionist's PC and they have no plans to replace the black box. Here's a refresher on the connection and share process:

1. Connect the shared printer to an unused parallel port (LPT1 or LPT2) on the workstation that will act as the print server.

Note: The workstation will assume some overhead which may be noticeable to the user if the processor is less than a Pentium 133MHz and if the workstation has less than 32MB of RAM.

2. From the Start Menu on the designated print server station, choose **Settings** and then **Printers**. Create a new printer definition using the "Add Printer" wizard. The first screen that pops up sometimes throws people off. See Figure 1. If you're like me (and never really read the instructions), your first impulse is to choose the "Network Printer Server" option because that's what we want to create, right? Nope. Choose the top option to create a local printer on "My Computer"

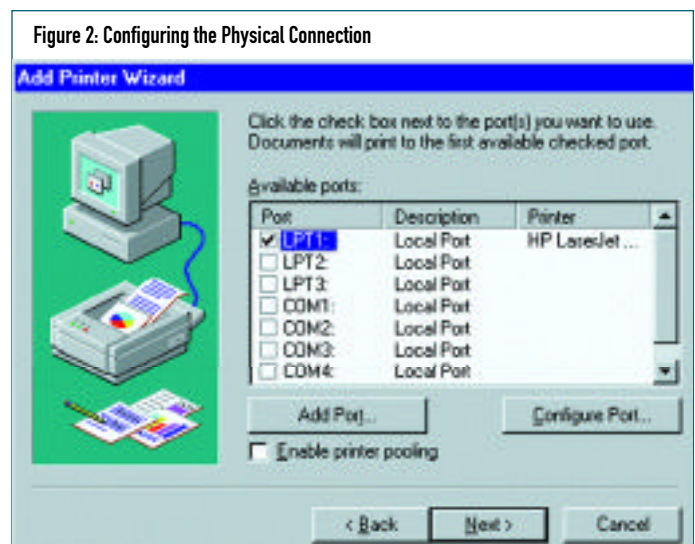
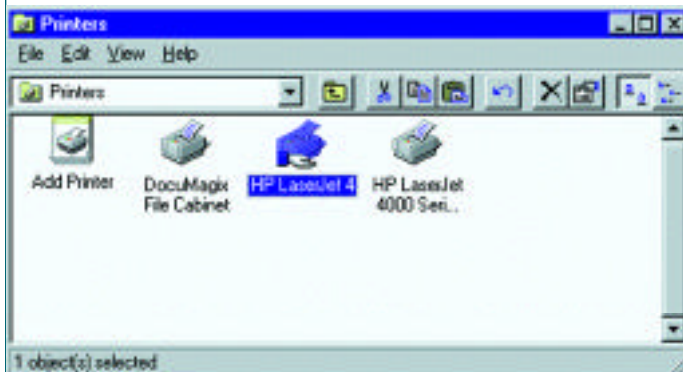


Figure 3: Sharing a Locally Defined Printer



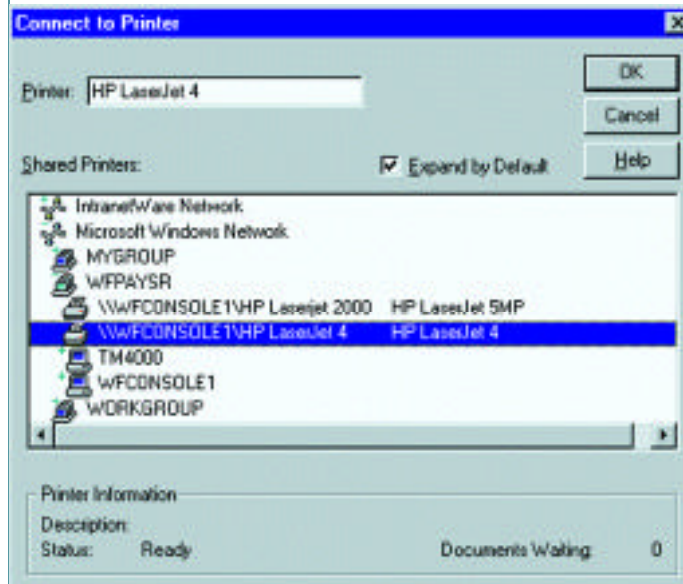
Figure 4: Identifying Shared Printers



first and then click on the **Next** button. The printer has to be defined locally before others can attach to it using the “Network Printer Server” option.

3. The screen in Figure 2 allows you to specify the physical printer ports being used. Here you can choose from the listed parallel (LPT) and serial (COM) ports, as well as define custom port settings using the Add Port button. You’ll find that this screen only allows one port to be checked at a time unless the “Enable Printer Pooling” check box is selected. Pooling allows multiple printers to be used by a single printer definition. This can be helpful for servicing large volume printing where all printers share the printing load.
4. The next screen prompts you to pick the appropriate print driver from NT’s built-in list. The list is fairly comprehensive, however, printer models not listed (released after your NT version was distributed) will require choosing the “Have Disk” button which will prompt you to provide the printer manufacturer’s driver on disk or CD.
5. On the next screen you’ll be able to name the printer and indicate whether this printer will be the machine’s default printer when printing from applications. The printer driver name used by default may contain spaces and exceed 31 characters when appended to the server (or workstation) name. This usually

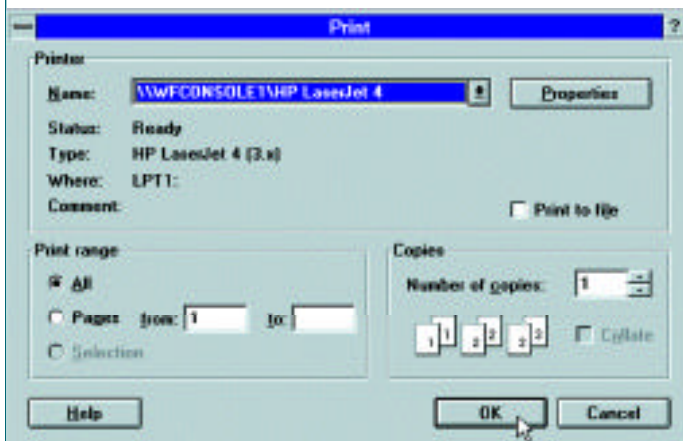
Figure 5: Connecting to Network Printers Using the Network Browser



isn’t a problem for newer applications; however, older 16-bit applications and Windows 3.x machines could have problems accessing long share names. For example, “\\RECEPTION-IST\HP COLOR LASERJET 5” exceeds 31 characters, so you could shorten the printer name to “HPLJ5C” to accommodate older applications. Click **Next**.

6. Now you can “share” the printer on the network using the panel shown in Figure 3. The share name that the network users will see when they connect to the printer is truncated to eight characters by default. You can use a longer share name if you wish, but again, MS-DOS and Windows 3.x workstations may have problems using the printer. The window at the bottom of this panel lets you select which type of workstations will be accessing the printer. You can select multiple OS types here, but be prepared to supply the installation CD for each OS selected. NT will load other workstation drivers so that when they connect to the shared printer, the workstation can download the printer driver from the print server. Note that Only Windows 95 and NT variations are supported. Windows 3.x workstations must have the drivers installed manually.
7. You will be prompted to print a test page and supply the needed installation files that correspond to the drivers and supported workstations chosen in Figure 3 and Step 4. Make sure the test print page comes out OK before trying to access the printer from a remote workstation. To further ensure local printing functionality, print from a few commonly used applications.
8. The shared printer will show up in the installed Printers window with the “helping-hand” beneath it as shown in Figure 4.
9. Now that the printer is shared, other workstations can print to it. From a remote workstation, start up the same Add Printer wizard as described in Step 2, but this time choose

Figure 6: Printing to Network Printer From Remote Workstation



“Network Printer Server” (or “Network Printer” on Windows 95) rather than My Computer. As shown in Figure 5, you’ll be able to browse the network and see the printer named in Step 6 along with the workstation being used as the print server. Simply select the network printer and click OK.

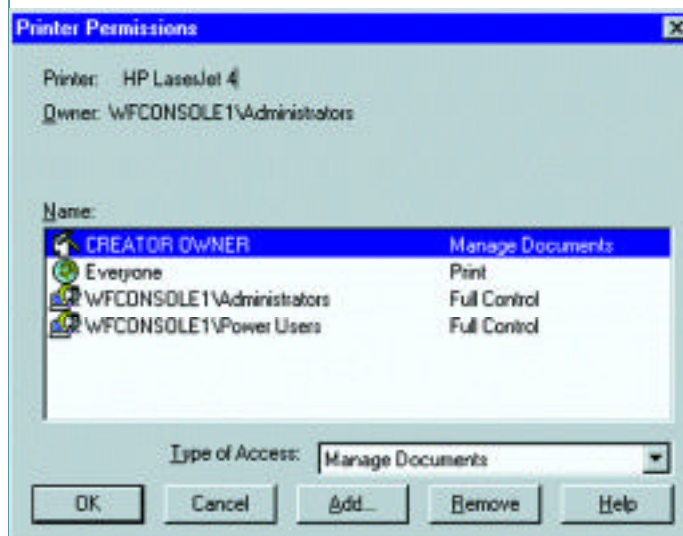
10. Within an application on the remote workstation you can print to the printer connected in Step 9 by selecting the network printer from the available printers list as shown in Figure 6.
11. By default, newly established shared printers assume the rights shown in Figure 7. If you want to change security settings, right click on the printer and choose **Properties**, select the **Security** tab, then click the **Permissions Button**. The creator/owner of the printer can manage documents (pause, stop and delete print jobs). The Everyone group can simply print without management functions except being able to clear their own print jobs. Administrators and the default NT group “Power Users” can have full control over the printer functions, including being able to change the security settings.

SUMMARY

Configuring shared printing with inherent NT networking is pretty straightforward. However, it is best suited for small- and medium-sized networks; not because NT isn’t able to handle large volume printing, but because administration of the printers is as distributed as the printers themselves. That is, the queue (where the print jobs are spooled) will be located on the server/workstation that hosts the printer. So in a small network environment, it isn’t a laborious task to manage individual queues. However, if you are managing dozens of printers in an enterprise network, the printer-specific queue management is very limiting.


The alternative is to have centralized management where all shared printers and their corresponding queues can be managed from

Figure 7: Assigning Printer Security



a single location and where all print job data is also centralized, as is the case with some UNIX implementations and NetWare.

For large-scale enterprise print management on NT, be on the lookout for third-party products such as Hyena from Adkins Resource (www.adkins-resource.com) or Enterprise Administrator from Mission Critical Software (www.missioncritical.com).

Next month, I will depart from standard inherent NT functionality and explore third-party software packages that will help make NT more manageable in large-scale networks. As always, I appreciate your feedback and thanks for reading. 

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