

Print Sharing Application Note

LOCAL NETWORK SERVICES

In addition to its WAN security and routing features, the InterJak provides file and printer sharing services, thereby providing your network with many of the benefits of a full Windows NT server. Because most network users are already familiar with the standard Windows networking model, the InterJak device makes resources available through the standard Windows tools, such as the Network Neighborhood and network printer setup. InterJak also supports many of the standard Microsoft networking features, such as network authentication, resource browsing, file sharing, print sharing and name resolution.

PRINT SHARING

As with hard disks, you can share a printer over the network simply by connecting it to one of the USB ports on the InterJak. In addition, the InterJak allows you to configure printer pools, in which two to four identical printers will appear as a single printer on the network. When a user submits a job to the pool, the InterJak automatically sends it to the available printer that has printed the least amount of data. This makes users' jobs print faster and spreads wear and tear equally between all connected printers.

PRINTING FROM CLIENTS TO INTERJAK

There are two possible strategies for allowing users to send jobs to printers connected to an InterJak:

- *Allow InterJak to act as a server providing print services*, which are visible to all authorized users on the network. In this case, all clients will have the InterJak print client installed, which enables them to create a local spool file and then send the job directly to an InterJak using LPR.
- *Use a Windows 2000/NT server to run a print server*, which then sends jobs to the InterJak, whose printers are not otherwise visible to client computers. In this case, clients will spool their jobs to the Windows NT/2000 server using SMB, after which the server will send jobs to an InterJak using either the InterJak print client or the built-in LPR support.

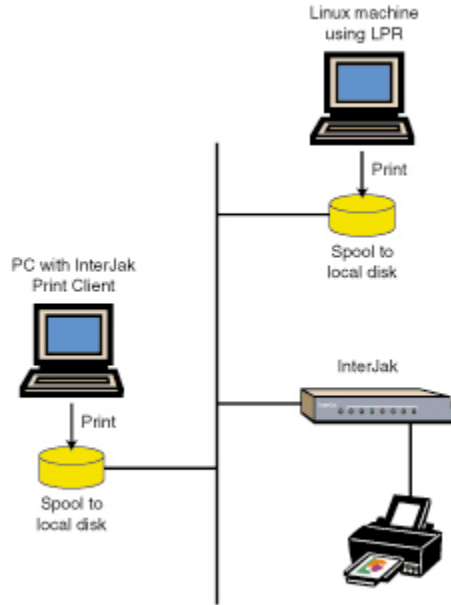
The option you choose will mostly depend on whether or not you have a Windows NT/2000 server available to act as a print server.

Printing Directly to InterJak

InterJak publishes its printers and printer pool services using NetBIOS, which means that they will be visible as standard Windows printers to Windows users. However, because several users may try to print at the same time, and files can not be spooled on the InterJak, incoming print jobs must be sent using the LPR protocol rather than Microsoft's SMB protocol. This means that jobs must be spooled to the client's local disk and then sent to InterJak using LPR. LPR provides better flow control and handles conflicting print requests, which could cause errors to occur on client machines if SMB were used.

InterJak includes client printing software that enables all Windows machines to see InterJak-connected printers as usual using SMB, but to print using LPR. The client is required for all Windows 95/98/Me workstations, though Windows NT and 2000 are able to use LPR without it. However, we strongly recommend that you use the InterJak print client on all Windows machines because it provides print queue information and it has additional services such as print pooling and job management.

Figure 1 Printing directly to an InterJak

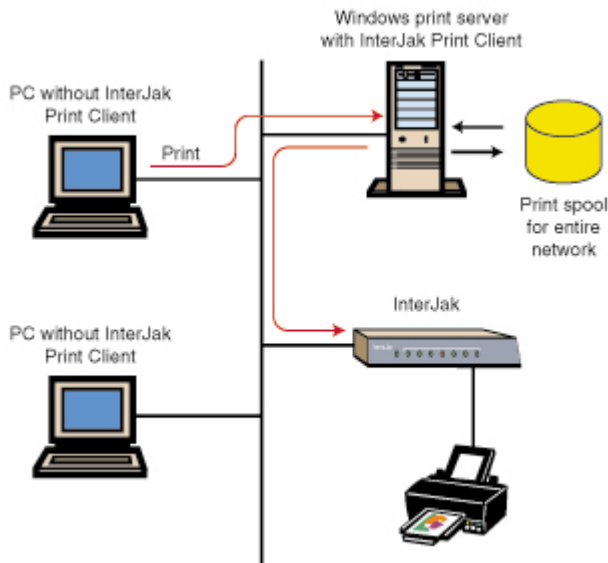


Mac OS, Unix and Linux clients are able to print directly to InterJak using LPR.

Printing via a Windows NT Print Server

If you have a Windows NT/2000 server on your network that you can use as a print spooler, then you can use that machine to spool print jobs and create a print queue. In this case, users in the network will be able to see the printer as if it were connected directly to the NT/2000 server.

Figure 2 Using a Windows NT printer server to print to an InterJak-connected printer



This configuration gives the following advantages:

- You do not need to install the InterJak print client on all of the workstations in your network
- You can take advantage of Windows NT/2000's automatic printer driver installation feature, which will automatically install the latest print driver from the server to all clients requesting to print
- Mac OS computers will be able to print to InterJak printers provided you have installed Macintosh services on your NT server.

The printer is defined and configured on the server as a standard shared printer and the printing is controlled using either the Windows standard LPR print capabilities or Filanet's InterJak Client.

CONNECTING USB PRINTERS

Printers connected to the InterJak will automatically be shared over the network. The following connectors are provided for connecting these devices:

2 Universal Serial Bus (USB) ports, to which both printers and hard disks can be connected. You may add additional USB ports through use of a standard USB hub attached to InterJak.

AUTOMATED PRINTER SHARING

Whenever you connect a printer to the InterJak, it will automatically be made available as a share to all network users. The name presented on the network will be the one presented by the printer to the InterJak—typically this will be the manufacturer name and model.

If you connect several identical printers, then three extra characters will be appended, though we recommend that you then create a printer pool, which will present the pair of printers as a single device. You are not able to change the name of individual printers, though you can assign names to printer pools, which means that you could create a pool with only one printer if you wish to assign a special name for a single printer.

CREATING, USING AND REMOVING PRINTER POOLS

A printer pool is a group of up to four identical printers that are presented to the network as a single printer. "Identical" here means that the printers use the same print driver. When a user prints to the pool, his or her job will print on the available printer to which InterJak has sent the least amount of data. The printer pool therefore provides fast printing, because several jobs can be printed simultaneously without requiring users to identify a specific printer, and reduces maintenance, because wear and tear is distributed equally between all of the printers of the pool. Furthermore, if a printer fails or runs out of paper, all jobs will be sent to another printer in the pool until the problem is fixed.

When you connect a printer, the printer may report a model name and unique serial number to the InterJak. InterJak stores a log of the number of pages printed to each serial number and checks this log each time a new job is sent to a pool. If more than one printer is available, then the new job is sent to the printer with the lowest number of pages noted in the log. This information will not be maintained if you move the printer to or from a new InterJak or another type of print server.

Print pools are not created automatically. To create a print pool, first connect a group of identical printers, then use the **Services:Printer Sharing** settings of the InterJak Web Manager to create and name a printer pool and add printers to it. Network users will see a single printer icon showing the name you choose and will be able to send jobs to it just as though it was a normal printer. You can also use the Web Manager to modify and remove existing printer pools.

NOTE *InterJak does not allow you to change the name displayed for a single printer (the name reported by the printer's firmware is shown). If you wish to assign a name to a single printer, then create a pool with only one printer in it and assign the name you wish to use to the pool.*

DISPLAYING AND USING PRINTER QUEUES ON CLIENT COMPUTERS

Most operating systems provide a printer queue display, which displays a list of jobs waiting to print on a given printer. The selection of documents that you are able to see when you view the print queue will depend on how you have set up printing on your network.

■ If all clients are printing by spooling to a Windows NT/2000 printer server, which then sends jobs one at a time to an InterJak, then the printer queue is provided by the NT/2000 server and will include all of the jobs waiting to print.

■ If the InterJak is publishing its printers on the network and clients are printing to it directly using the InterJak print client, then the printer queue will only show the first job waiting to print from each client on the network. If some users have spooled several jobs, only the first one will be listed because the remaining jobs will have been spooled locally on the client and will not be sent over the network until the first job is finished printing. However, each client will be able to see all jobs in the queue.