Customer Tips

… for the user

Windows NT Jobs Pause When Printing via LPR and a Xerox Multifunction Device

Purpose

This document describes how to improve Document Centre performance and productivity when you use LPR to print to all Document Centre, WorkCentre M/Pro and Color Series 50 products in a Windows NT environment.

Problem

When printing many relatively small jobs using Line Printer Remote (LPR), the Windows NT print spooler may pause after 11 jobs even when the multifunction device is idle and ready to print. This pause may last two minutes, then the next 11 jobs process through to the multifunction device and then another pause might occur.

Cause

This problem occurs more frequently on a server (as opposed to a workstation) because jobs from many users are pushed through a server's 11 available ports. (LPR printer ports are now limited to using a maximum of 11 TCP/IP ports at one time.)

This is an issue with the Windows NT4.0 operating system. The LPR service uses the 11 TCP ports 721 through 731 (by default) for LPR connections. Each print job opens a port. This port remains open for at least four minutes while the job is sent.

This document pertains to these Xerox products:

x	**WC Pro 32/40 Color**
x	**WC Pro 65/75/90**
x	**WC Pro 35/45/55**
x	**WC M 35/45/55**
x	**DC 555/545/535**
x	**DC 490/480/470/460 ST**
x	**DC 440/432/425/420 ST**
x	**DC 340/332 ST**
x	**DC 265/255/240 ST/LP**
x	**DC 220/230 ST/LP**
x	**DCCS 50**

Solution

NOTE: Choose either Method 1 or Method 2 (see the sections below) as a solution.

Warnings:

- **If Registry Editor is used incorrectly, serious problems could occur that might require you to reinstall your operating system.** Xerox cannot guarantee that you (or anyone) can solve problems resulting from the incorrect use of Registry Editor. Use Registry Editor at your own risk.

- **Back up the registry before editing.** If you are running Windows NT 4.0, you should also update your Emergency Repair Disk (ERD).

Do the following to learn how to edit the registry:

- View the "Changing Keys and Values" help topic in Registry Editor (Regedt32.exe) or

- View the "Add and Delete Information in the Registry" and "Edit Registry Data" help topics in Registry Editor (Regedt32.exe).

In Service Pack 3, a new registry entry automatically generates when a new LPR port is created. This setting is defined on a per printer port basis and defaults to 0, which is RFC 1179 compliant. To enable individual IP address ports to use TCP ports 1024 and higher, apply Service Pack 3 and then use the steps under **Method 1**.

Windows NT 4.0 Service Pack 4 (SP4) and later versions enables a new registry value, UseNonRFCSourcePorts, to configure LPR printers to use TCP ports higher than 1024 with one registry entry that incorporates a global change. Use **Method 2** on print servers that have a large number of LPR ports.

NOTE: If all LPR ports were created prior to applying SP4 or later, an individual port entry exists in the registry for all LPR ports. These individual ports take precedence over the global entry UseNonRFCSourcePorts, and you must delete them from the registry before the UseNonRFCSourcePorts global setting can work for all LPR ports. The instructions below include removing these individual entries and adding the new entry.

Note:
Use Method 1 or 2 (not both) as a solution.

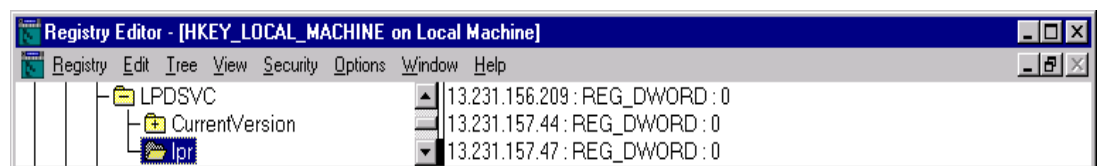| Method 1 (Service Pack 3)	Method 2 (Service Pack 4+)
1. Verify that Service Pack 3 is installed.	1. Verify that Service Pack 4 or higher is installed.
2. Refer to the Microsoft document (Q141708) in the Knowledge Base Search on Microsoft's website at: http://support.microsoft.com/support/kb/articles/Q141/7/08.ASP.	2. Refer to the Microsoft document (Q179156) in the Knowledge Base Search on Microsoft's website at: http://support.microsoft.com/support/kb/articles/Q179/1/56.ASP.
3. Start Registry Editor (Regedt32.exe) and go to the following key: *HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\LPDSVC\lpr* (See Figure 1 below.)	3. Start Registry Editor (Regedt32.exe) and go to the following key: *HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\LPDSVC\lpr* (See Figure 1 below.)

Figure 1: Editing the lpr *Key*

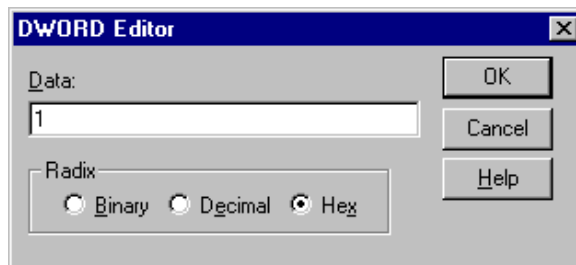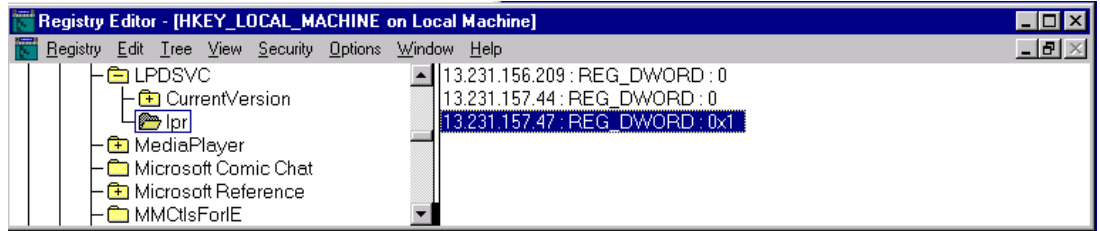| Method 1 (Service Pack 3) Continued	Method 2 (Service Pack 4+) Continued
4. If the values listed below exist, double-click an entry. If the values do not exist, select [**Add Value**] from the Edit menu and enter the following information in the "Add Value" dialog box (see Figure 2):	4. On the Registry menu, select [**Save Key**] and type a filename.
• Value Name: <IP address of LPR printer port>	5. Delete the lpr key to remove all of the individual IP address entries.
• Data Type : REG_DWORD	6. Select the LPDSVC key.
In the DWORD Editor (see Figure 3) enter the following:	7. On the Edit menu, select [**Add Key**], then type lpr in the **Key Name** box.
• Value : 0 or 1 0 = uses ports 721-731 (default) 1 = uses any port >1024	8. Select the newly created lpr key. On the Edit menu, select [**Add Value**], and then type the following information in the "Add Value" dialog box (see Figure 3):
NOTE: Verify that the Hex radio button is selected.	• Value Name: <IP address of LPR printer port>
5. The updated lpr key should look like Figure 4.	• Data Type: REG_DWORD
	In the DWORD Editor (see Figure 4) enter the following:
	• Value: 0 or 1 0 = uses ports 721-731 (default) 1 = uses any port >1024
	NOTE: Ensure that the Hex radio button is selected.
	9. The updated lpr key should look like Figure 4.

Figure 2: Add Value Dialog

Figure 3: DWORD Dialog

Figure 4: Updated lpr Key

Method 1 (Service Pack 3) Continued	Method 2 (Service Pack 4+) Continued

6. Use the following commands to stop and restart the Spooler service so that the changes take effect. At an MS-DOS command prompt type:
 	
`net stop spooler`
 	
To restart the Spooler service, type the following command at an MS-DOS command prompt:
 	
`net start spooler`
	10. Use the following commands to stop and restart the Spooler service so that the changes take effect. At an MS-DOS command prompt type:
	
	`net stop spooler`
	
	To restart the Spooler service, type the following command at an MS-DOS command prompt:
	
	`net start spooler`
	
	NOTE: This solution enables Non-RFC 1179 port usage to speed up printing. If you still need to have some ports RFC compliant, follow the detailed instructions in Microsoft's Article Number Q179156.

Additional Information

Xerox Customer Service welcomes feedback on all documentation - send feedback via e-mail to: USA.DSSC.Doc.Feedback@mc.usa.xerox.com.

You can reach Xerox Customer Support at 1-800-821-2797 (USA), TTY 1-800-855-2880 or at http://www.xerox.com.

Other Tips about Xerox multifunction devices are available at the following URL: http://www.xerox.com/DocumentCentreFamily/Tips.

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