HP printers supported in Citrix XenApp Server environments

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Executive summary

Citrix® has collaborated with HP to test select HP printers and their associated HP print drivers in a Citrix XenApp™ 5 Server for Microsoft® Windows® Server 2008 and Microsoft Windows Server 2008 x64 Edition environments.

These tests were run to determine how HP printers and their associated printer drivers performed using the standard printer and printer-related features tests that Citrix uses to test its XenApp Server and XenApp Server client software. This document lists all of the printers tested by HP in Citrix environments, explains the printer tests performed by Citrix, identifies which HP printers and printer driver versions were used, and describes any issues that occurred while performing these tests.

Citrix has also collaborated with HP to test select HP scanners and All-in-One printers and their associated HP TWAIN drivers in a Citrix XenApp Server environment.

These tests were run to determine how HP scanners and All-in-One printers and their associated TWAIN drivers performed using the scan-related feature tests that Citrix uses to test its XenApp Server and XenApp Server client software. This document explains the scan tests performed by Citrix, identifies which HP scanners and All-in-One printers and TWAIN driver versions were used, and describes any issues that occurred while performing these tests.

What's new

- The table of HP supported printers and drivers has been updated
- HP UPD 5.0 information has been added

Versions of Terminal Server and Citrix supported by HP

- Microsoft Windows Server 2008 x64 Edition Terminal Services
  - Citrix XenApp 5.0
- Microsoft Windows Server 2008 Terminal Services
  - Citrix XenApp 5.0
- Microsoft Windows Server 2003 x64 Edition Terminal Services
  - Citrix Presentation Server™ 4.5
  - Citrix Presentation Server™ 4.0
- Microsoft Windows Server 2003 Terminal Services
  - Citrix Presentation Server 4.5
  - Citrix Presentation Server 4.0
  - Citrix® MetaFrame® Presentation Server, 3.0
  - Citrix® MetaFrame XP® Presentation Server (Feature Release 1, 2, and 3)

Testing performed by HP

HP performs Windows Server/Citrix Server testing on its print drivers and is confident in the stability and functionality of the driver versions mentioned in this article. HP also screens all driver releases to verify that the drivers are free of memory leaks and memory allocation issues that might cause print spooler crashes or Citrix logon issues.

HP has selected a combination of LaserJet, Business Inkjet, and Deskjet printers for Citrix to test that serve as a representative test sample for all printers in the HP printer family. Because the driver code bases of these printers are common to all printers in the HP printer family, the Citrix testing of these select printers translates to all other HP printers. All HP printers and their associated printer drivers listed in this document are supported by HP in Citrix environments. HP supports only the driver on the Citrix server and no other components from the CD or printing system installed on the Citrix server.

Feature Testing

The HP test team installs the print driver on the Citrix server, logs into a Citrix session, and verifies that printing is successful to client printers and network printers. The feature testing performed by HP is very similar to the Citrix Interoperability Test Kit for the Citrix Ready program. In addition to the feature testing that is part of the Citrix Ready program, HP performs stress testing of its print drivers to ensure that the print driver can stand up to the printing and autocreation demand that is common on a Citrix server.

Stress Testing

HP performs stress testing of its print drivers in both Citrix and non-Citrix environments. HP tests its print drivers with the StressPrinters tool provided by Citrix to simulate a user logon where multiple printers are autocreated concurrently. HP also employs other printing stress suites to ensure its drivers are compatible and stable in Citrix environments.

HP LaserJet printers and supported driver versions

Table 1 identifies the HP LaserJet printers and associated drivers that are supported in Citrix environments by HP. These printers and printer drivers were tested by HP. A description of the issue resolutions and known product limitations is included in this section.

Table 1: Minimum levels of HP-supported drivers in the Citrix environment

HP printer	Supported in Citrix environ-ment	HP-supported drivers*		
		PCL	Host-based	PS
LJ 1000	Not supported	N/A	Not Supported	N/A
LJ P1005	Not supported	N/A	Not Supported	N/A
LJ P1006	Not supported	N/A	Not Supported	N/A
LJ P1008	Not supported	N/A	Not Supported	N/A
LJ 1010/1012	Yes	N/A	Win2k/XP/2003: 5.60.1604.0 Win2003-x64: Not Supported	N/A
LJ 1015	Yes	Win2k/XP/2003: 60.05.17.02 Win2003-x64: Use HP LaserJet 1200 driver included in the Windows OS	N/A	N/A
CLJ CM1015/ 1017 mfp	Yes	Win2k/XP/2003/2003-x64: 60.061.442.00	N/A	Win2k/XP/2003/2003-x64: 60.061.442.00
LJ 1018	Not supported	N/A	Not Supported	N/A
LJ 1020	Not supported	N/A	Not Supported	N/A
LJ 1022	Yes	Use HP LaserJet 6L PCL5e driver included in the Windows OS	Not Supported	N/A
LJ 1100	Yes	Win2k/XP/2003: 4.3.2.201 Win2003-x64: use HP LaserJet 1100 driver included in the Windows OS	N/A	N/A

HP printer	Supported in Citrix environ-ment	HP-supported drivers*		
		PCL	Host-based	PS
LJ 1150	Yes	Win2k/XP/2003: 60.5.17.2 Win2003-x64: Use HP LaserJet 1200 driver included in the Windows OS	N/A	N/A
LJ 1160	Yes	Win2k/XP/2003: 61.063.461.42 Win2003-x64: Use HP LaserJet 1200 driver included in the Windows OS	N/A	N/A
LJ 1200	Yes	Win2k/XP/2003: 4.3.2.208 Win2003-x64: use HP LaserJet 1200 driver included in the Windows OS	N/A	Win2k/XP/2003: 4.3.2.172 Win2003-x64: use HP LaserJet 1200 driver included in the Windows OS
LJ 1300	Yes	Win2k/XP/2003: 60.5.17.2 Win2003-x64: Use HP LaserJet 1200 driver included in the Windows OS	N/A	Win2k/XP/2003: 60.5.17.2 Win2003-x64: Use HP LaserJet 1200 driver included in the Windows OS
CM 1312 MFP	Yes	Win2k/XP/2003/2003-x64: 61.72.53.0	N/A	N/A
LJ 1320	Yes	Win2k/XP/2003: 61.063.461.42 Win2003-x64: Use HP LaserJet 1200 driver included in the Windows OS	N/A	Win2k/XP/2003: 61.063.461.42 Win2003-x64: Use HP LaserJet 1200 driver included in the Windows OS
CLJ 1500	No	N/A	Win2k/XP/2003: 1.00.1913.0 Win2003-x64: Not Supported	N/A
P1505	No	N/A	Not Supported	N/A
P1505n	Yes	Win2k/XP/2003/2003-x64: 61.063.351.00	Not Supported	N/A
CP1510 series	Yes	Win2k/XP/2003/2003-x64: 61.72.52.0	Not Supported	Win2k/XP/2003/2003-x64: 61.72.52.0
LJ M1522 MFP series	Yes	Win2k/XP/2003/2003-x64: 61.072.48.00	N/A	Win2k/XP/2003/2003-x64: 61.072.48.00
CLJ 1600	Not supporte d	N/A	Not supported	N/A

HP printer	Supported in Citrix environ-ment	HP-supported drivers*		
		PCL	Host-based	PS
LJ P2010/P2014	Yes	Win2k/XP/2003/2003-x64: 61.063.351.0	N/A	N/A
LJ P2015	Yes	Win2k/XP/2003/2003-x64: 60.063.461.42	N/A	Win2k/XP/2003/2003-x64: 60.063.461.42
CP2020/2025	Yes	Win2k/XP/2003/2003-x64: 61.072.51.02	N/A	Use the UPD
LJ P2035	Yes	Use the HP UPD	Not Supported	N/A
LJ P2050/2055	Yes	Win2k/XP/2003/2003-x64: 61.82.242.0	N/A	Win2k/XP/2003/2003-x64: 61.82.242.0
LJ 2100	Yes	Win2k/XP/2003: 4.27.2100.410 Win2003-x64: use HP LaserJet 2100 driver included in the Windows OS	N/A	Win2k/XP/2003: 4.0 Win2003-x64: use HP LaserJet 2100 driver included in the Windows OS
LJ 2200	Yes	Win2k/XP/2003: 4.27.2200.410 Win2003-x64: use HP LaserJet 2200 driver included in the Windows OS	N/A	Win2k/XP/2003: 2.0 Win2003-x64: use HP LaserJet 2200 driver included in the Windows OS
LJ 2300	Yes	Win2k/XP/2003/2003-x64: 60.051.501.32	N/A	Win2k/XP/2003/2003-x64: 60.051.501.32
CM2320	Yes	Win2k/XP/2003/2003-x64: 61.072.42.00	N/A	Use the UPD
LJ 2410/2420/2430	Yes	Win2k/XP/2003/2003-x64: 61.063.461.42	N/A	Win2k/XP/2003/2003-x64: 61.063.461.42
CLJ 2500	Yes	Win2k/XP/2003: 4.20.2500.430 Win2003-x64: Use HP Color LaserJet 4550 driver included in the Windows OS	N/A	Win2k/XP/2003: 1.0.0.0 Win2003-x64: Use HP Color LaserJet 4550 driver included in the Windows OS
CLJ 2550	Yes	Win2k/XP/2003: 60.34.78.41 Win2003-x64: Use HP Color LaserJet 4550 driver included in the Windows OS	N/A	Win2k/XP/2003: 60.34.78.41 Win2003-x64: Use HP Color LaserJet 4550 driver included in the Windows OS
CLJ 2600	Not supported	N/A	Not supported	N/A
CLJ 2605	Yes	Win2k/XP/2003/2003-x64: 60.053.45.00	N/A	Win2k/XP/2003/2003-x64: 60.053.45.00

HP printer	Supported in Citrix environ-ment	HP-supported drivers*		
		PCL	Host-based	PS
CLJ 2700	Yes	Win2k/XP/2003/2003-x64: 60.061.447.00	N/A	Win2k/XP/2003/2003-x64: 60.061.447.00
LJ M2727 mfp	Yes	Win2k/XP/2003/2003-x64: 61.072.48.00b	N/A	Win2k/XP/2003/2003-x64: 61.072.48.00b
LJ 2820/ 2830/ 2840	Yes	Win2k/XP/2003: 60.034.41.00 Win2003-x64: Use LJ2400 driver	N/A	Win2k/XP/2003: 60.034.41.00 Win2003-x64: Use LJ2400 driver
CLJ 3000	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41
LJ P3005	Yes	Win2k/XP/2003/2003-x64: 61.063.461.42	N/A	Win2k/XP/2003/2003-x64: 61.063.461.42
LJ 3015/ 3020/3030	Yes	Win2k/XP/2003: 60.5.72.21 Win2003-x64: Use HP LaserJet P3005 driver	N/A	Win2k/XP/2003: 60.5.72.21 Win2003-x64: Use HP LaserJet P3005 driver
LJ M3027/ M3035mfp	Yes	Win2k/XP/2003/2003-x64: 61.071.661.32	N/A	Win2k/XP/2003/2003-x64: 61.071.661.32
LJ 3050/3052 3055	Yes	Win2k/XP/2003: 60.051.564.021 Win2003-x64: Use HP LaserJet P3005 driver	N/A	Win2k/XP/2003: 60.051.1243.00 Win2003-x64: Use HP LaserJet P3005 driver
LJ 3100	Yes	Use HP LaserJet Series II driver included in the Windows OS	N/A	N/A
LJ 3150	Yes	Use HP LaserJet Series II driver included in the Windows OS	N/A	N/A
LJ 3200	Yes	Win2k/XP/2003: 4.3.2.208 Win2003-x64: Use HP LaserJet 3200 driver included in the Windows OS	N/A	N/A
LJ 3300mfp	Yes	Win2k/XP/2003: 4.19.3300.3 Win2003-x64: Use HP LaserJet P3005 driver	N/A	Win2k/XP/2003: 4.13.3300.9 Win2003-x64: Use HP LaserJet P3005 driver
LJ 3380	Yes	Win2k/XP/2003: 60.5.72.21 Win2003-x64: Use HP LaserJet P3005 driver	N/A	Win2k/XP/2003: 60.5.72.21 Win2003-x64: Use HP LaserJet P3005 driver

HP printer	Supported in Citrix environ-ment	HP-supported drivers*		
		PCL	Host-based	PS
LJ 3390/3392	Yes	Win2k/XP/2003: 60.051.564.021 Win2003-x64: Use HP LaserJet P3005 driver	N/A	Win2k/XP/2003: 60.051.564.021 Win2003-x64: Use HP LaserJet P3005 driver
CLJ 3500	Yes	N/A	Win2k/XP/2003: 61.063.461.41 Win2003-x64: Use the HP Color LaserJet 3550 driver	N/A
CP3505	Yes	Win2k/XP/2003/2003-x64: 61.063.346.00	N/A	Win2k/XP/2003/2003-x64: 61.063.346.00
CP3520/3525	Yes	Win2k/XP/2003/2003-x64: 61.082.41.00	N/A	Win2k/XP/2003/2003-x64: 61.082.41.00
CM3530	Yes	Win2k/XP/2003/2003-x64: 61.082.41.00	N/A	Use the UPD
CLJ 3550	Yes	N/A	Win2k/XP/2003/2003-x64: 60.32.42.00	N/A
CLJ 3600	Yes	N/A	Win2k/XP/2003/2003-x64: 61.063.461.41	N/A
CLJ 3700	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41
CLJ 3800	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41
LJ 4000	Yes	Win2k/XP/2003: 4.27.4000.400 Win2003-x64: use HP LaserJet 4000 driver included in the Windows OS	N/A	Win2k/XP/2003: 4.0 Win2003-x64: use HP LaserJet 4000 driver included in the Windows OS
CLJ CP4005	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41
LJ 4015	Yes	PCL5: Win2k/XP/2003/2003-x64: 61.081.32.00 PCL6: Win2k/XP/2003/2003-x64: 61.072.51.02	N/A	Win2k/XP/2003/2003-x64: 61.081.32.00
LJ 4050	Yes	Win2k/XP/2003: 4.27.4050.410 Win2003-x64: use HP LaserJet 4050 driver included in the Windows OS	N/A	Win2k/XP/2003: 4.0_1.30 Win2003-x64: use HP LaserJet 4050 driver included in the Windows OS

HP printer	Supported in Citrix environ-ment	HP-supported drivers*		
		PCL	Host-based	PS
LJ 4100, LJ 4100/ 4101mfp	Yes	Win2k/XP/2003: 4.27.4100.441 Win2003-x64: use HP LaserJet 4100 driver included in the Windows OS	N/A	Win2k/XP/2003: 3.0.8 Win2003-x64: use HP LaserJet 4100 driver included in the Windows OS
LJ 4200	Yes	Win2k/XP/2003/2003-x64: 61.063.461.42	N/A	Win2k/XP/2003/2003-x64: 61.063.461.42
LJ 4240/4250	Yes	Win2k/XP/2003/2003-x64: 61.063.461.42	N/A	Win2k/XP/2003/2003-x64: 61.063.461.42
LJ 4300	Yes	Win2k/XP/2003/2003-x64: 61.063.461.42	N/A	Win2k/XP/2003/2003-x64: 61.063.461.42
LJ 4345mfp	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41
LJ M4345mfp	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41
LJ 4350	Yes	Win2k/XP/2003/2003-x64: 61.063.461.42	N/A	Win2k/XP/2003/2003-x64: 60.051.502.32
CLJ 4500	Yes	Win2k/XP/2003: 4.27.4500.400 Win2003-x64: use HP Color LaserJet 4500 driver included in the Windows OS	N/A	Win2k/XP/2003: 4.1.1 Win2003-x64: use HP Color LaserJet 4500 driver included in the Windows OS
LJ 4515	Yes	PCL5: Win2k/XP/2003/2003-x64: 61.081.32.00 PCL6: Win2k/XP/2003/2003-x64: 61.072.51.02	N/A	Win2k/XP/2003/2003-x64: 61.081.32.00
CLJ 4550	Yes	Win2k/XP/2003: 4.27.4550.400 Win2003-x64: use HP Color LaserJet 4550 driver included in the Windows OS	N/A	Win2k/XP/2003: 5.00.2195.2307 Win2003-x64: use HP Color LaserJet 4550 driver included in the Windows OS
CLJ 4600	Yes	PCL5: Win2k/XP/2003: 4.27.4600.440 PCL6: Win2k/XP/2003/ 2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41
CLJ 4650	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41
CLJ 4700	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41

HP printer	Supported in Citrix environ-ment	HP-supported drivers*		
		PCL	Host-based	PS
CLJ 4730mfp	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41
CLJ CM4730mfp	Yes	Win2k/XP/2003/2003-x64: 61.063.345.00	N/A	Win2k/XP/2003/2003-x64: 61.063.345.00
LJ 5000	Yes	Win2k/XP/2003: 4.27.5000.400 Win2003-x64: use HP LaserJet 5000 driver included in the Windows OS	N/A	Win2k/XP/2003: 4.0 Win2003-x64: use HP LaserJet 5000 driver included in the Windows OS
LJ M5025/ M5035 mfp	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41
LJ 5100	Yes	PCL6: Win2k/XP/2003/2003-x64: 61.063.461.42 PCL5: Win2k/XP/2003/2003-x64: Use the HP UPD	N/A	Win2k/XP/2003/2003-x64: 61.063.461.42
LJ 5200/5200L	Yes	Win2k/XP/2003/2003-x64: 61.063.461.42	N/A	Win2k/XP/2003/2003-x64: 61.063.461.42
LJ 5500	Yes	PCL6: Win2k/XP/2003/2003-x64 60.071.661.41 PCL5: Win2k/XP/2003/2003-x64 Use the HP UPD	N/A	Win2k/XP/2003/2003-x64: 60.071.661.41
CLJ 5550	Yes	PCL6: Win2k/XP/2003/2003-x64 60.071.661.41	N/A	Win2k/XP/2003/2003-x64: 60.071.661.41
CP6015	Yes	PCL6: Win2k/XP/2003/2003-x64 61.081.41.02	N/A	Win2k/XP/2003/2003-x64: 61.081.41.02
CM6030/CM6040	Yes	PCL6: Win2k/XP/2003/2003-x64 61.081.41.02	N/A	Win2k/XP/2003/2003-x64: 61.081.41.02
LJ 8000	Yes	Win2k/XP/2003: 4.27.8000.441 Win2003-x64: use HP LaserJet 8000 driver included in the Windows OS	N/A	Win2k/XP/2003: 4.0 Win2003-x64: use HP LaserJet 8000 driver included in the Windows OS
LJ 8100	Yes	Win2k/XP/2003: 4.27.8100.410 Win2003-x64: use HP LaserJet 8100 driver included in the Windows OS	N/A	Win2k/XP/2003: 4.0 Win2003-x64: use HP LaserJet 8100 driver included in the Windows OS

HP printer	Supported in Citrix environ-ment	HP-supported drivers*		
		PCL	Host-based	PS
LJ 8150	Yes	Win2k/XP/2003: 4.27.8150.410 Win2003-x64: use HP LaserJet 8150 driver included in the Windows OS	N/A	Win2k/XP/2003: 2.0.5 Win2003-x64: use HP LaserJet 8150 driver included in the Windows OS
CLJ 8500	Yes	Win2k/XP/2003: 1.0 Win2003-x64: use HP LaserJet 8500 driver included in the Windows OS	N/A	Win2k/XP/2003: 4.01 Win2003-x64: use HP LaserJet 8500 driver included in the Windows OS
CLJ 8550	Yes	Win2k/XP/2003: 4.27.8550.440 Win2003-x64: use HP Color LaserJet 8550 driver included in the Windows OS	N/A	Win2k/XP/2003: 4.27.8550.440 Win2003-x64: use HP Color LaserJet 8550 driver included in the Windows OS
LJ 9000/ LJ 9000mfp	Yes	PCL6: Win2k/XP/2003/2003-x64: 61.063.461.42 PCL5: Win2k/XP/2003/2003-x64: Use the HP UPD	N/A	Win2k/XP/2003/2003-x64: 61.063.461.42
LJ 9040/9050	Yes	Win2k/XP/2003/2003-x64: 61.063.461.42	N/A	Win2k/XP/2003/2003-x64: 61.063.461.42
LJ 9040mfp/ 9050mfp	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41
LJ 9055mfp	Yes	PCL5 Win2k/XP/2003: 60.33.176.32 PCL6 Win2k/XP/2003: 60.33.189.21 Win2003-x64: use HP LaserJet 9040 driver	N/A	Win2k/XP/2003: 60.33.104.43 Win2003-x64: use HP LaserJet 9040 driver
LJ 9065mfp	Yes	PCL5 Win2k/XP/2003: 60.33.176.32 PCL6 Win2k/XP/2003: 60.33.189.21 Win2003-x64: use HP LaserJet 9040 driver	N/A	Win2k/XP/2003: 60.33.104.43 Win2003-x64: use HP LaserJet 9040 driver
CLJ 9500	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41
CLJ 9500mfp	Yes	Win2k/XP/2003/2003-x64: 61.071.661.41	N/A	Win2k/XP/2003/2003-x64: 61.071.661.41

HP printer	Supported in Citrix environ-ment	HP-supported drivers*		
		PCL	Host-based	PS
LJ 4, 5, 6 Family	Yes	Win2k/XP/2003: 02.12.01 Win2003-x64: Use driver included in the Windows OS	N/A	Win2k/XP/2003: 4.0 Win2003-x64: Use driver included in the Windows OS

* Driver versions more current than the versions stated in this table are also supported.

HP Color printers with Edgeline Technology and supported driver versions

Table 2: Minimum levels of HP-supported drivers in the Citrix environment

HP printer	Supported in Citrix environ-ment	HP-supported drivers*		
		PCL	Host-based	PS
CM8050/8060 MFP	Yes	Win2k/XP/2003/2003-x64: 61.073.43.00	N/A	Win2k/XP/2003/2003-x64: 61.073.43.00

* Driver versions more current than the versions stated in this table are also supported.

Using the HP Universal Print Driver version 5.0 for Windows in Citrix environments

The HP Universal Print Driver (UPD) for Windows version 5.0, available for free from hp.com at http://www.hp.com/go/upd, is supported by HP in Citrix and Terminal Server environments. HP has tested the HP Universal Print PCL 5 driver, HP Universal Print PCL 6 driver, and the HP universal postscript emulation driver in Citrix environments. The HP Universal Print Driver can be installed in static or traditional mode on the server and perform as a universal print driver for all autocreated printers or redirected printers. Installation of the HP Universal Print Driver in dynamic mode is not supported in a multi-user environment. Dynamic mode allows a user to search for and use printers on the network from the HP Universal Print Driver queue. The Windows operating system limits a print queue to one port at a time. Multiple users will compete for the single port bound to the HP Universal Print Driver queue if installed in dynamic mode. As a result, dynamic mode installation of the HP Universal Print Driver is not supported in Citrix and Terminal Server environments.

For autocreated printers, the HP Universal Print PCL 5 driver can be mapped to print to all PCL 5-capable HP client printers or the HP Universal Print postscript (PS) emulation driver to all postscript-capable HP client printers through driver mapping in the Citrix management tools. To install the HP Universal Print Driver in static or traditional mode, download the software from http://www.hp.com/go/upd and run install.exe from the command line on the server and then configure the mapping from within the Citrix Server. Or use Add Printer Wizard or Add Printer Driver Wizard. Go to http://www.hp.com/go/upd for more information and white papers on the HP UPD.

For Terminal Server 2003 SP1 configurations, the HP Universal Print Driver can be configured as the PCL or PS fallback driver when installed in static or traditional mode.

The difference between the Citrix and HP UPDs

The Citrix UPD for Citrix Presentation Server 4.0, 4.5, or XenApp 5.0 works well for autocreated client printers and Microsoft Windows 2000, Windows XP, or Windows Vista® clients. The Citrix UPD cannot be used for autocreated session printers, configured by a Citrix policy, that are network print shares connected at login. Discrete print drivers must be installed on the Citrix server for any session printer. The Citrix UPD also requires Windows 2000, XP, or Vista on the client. The Citrix UPD is not supported with thin clients that utilize embedded operating systems because the Citrix UPD works in conjunction with the Windows print driver installed on the client for communication of print settings and rendering of the print jobs locally.

The HP UPD works well for mapping to any HP PCL or Postscript client print driver for autocreated client printers. It works well for any client, including thin clients with embedded operating systems.

The Citrix UPD has the ability to provide all printer configurations and user settings from the client printer, such as print on both sides as default, to the autocreated printer within the Citrix user session. The HP UPD has the ability, if the client printer is a network printer, to communicate with the printer and determine its configuration, such as tray configuration. But the HP UPD cannot determine user settings of the client printers from the client. The autocreated printers using the HP UPD will have default print settings, such as print single-sided as default.

Known limitation of the UPD when used for autocreated printers or redirected printers with client printers that are directly attached

The UPD, outside of a Citrix environment, has the ability to configure itself according to the actual configuration of the printer, such as tray configuration, by communicating directly with the printer. Currently, version 5.0 of the UPD has the limitation that, when installed on the server and mapped for autocreated printers, it cannot communicate with the printer installed on the client if the client's printer is directly attached to the client machine, such as via USB. If the printer is networked, automatic configuration is supported. For directly attached printers on the client, such as USB-connected printers, the UPD PCL driver defaults to black and white, no extra trays, no device-specific paper handling, etc. The UPD PS driver defaults to color, no extra trays, no device-specific paper handling, etc.

NOTE: Printers that are attached to the client via network ports are not affected. The UPD, installed on the server, can communicate with client printers that are available on the network.

Client printer settings not reflected in autocreated printers

This is a limitation of Citrix MetaFrame 3.0 and older versions. Driver settings, such as tray configuration, duplexer, printer memory, and quick sets are not read at autocreation. Paper size and orientation are the only client settings that are read during autocreation. The remaining settings are determined by the default settings of the driver installed on the server.

Citrix has provided this functionality in Presentation Server 4.0 and beyond by using the Citrix UPD for client printers. The Citrix server must be at least 4.0 and the client must be a Windows client (Windows 2000, XP, Vista) with at least ICA version 9.0.

If Feature Release 1/Service Pack 1 or later is installed on a MetaFrame XP Server, go to the properties of the autocreated printer and configure the driver for features manually, then set the tray configuration, duplexer, and hard disk settings. The settings will be saved to the user's profile when the user logs out. Printer settings will be restored the next time the user logs in. This feature is available in environments running MetaFrame XP with Feature Release 1 and Service Pack 1 or greater.

Business Inkjet printers and supported driver versions

The table below identifies the HP Business Inkjet printers and associated drivers that are supported in Citrix environments by HP. These printers and printer drivers have been tested by HP. A description of the issue resolutions and known product limitations is included in this section.

HP printer	Supported in Citrix environment	HP-supported drivers*		
		PCL	Host-based	PS
Deskjet 310/320/340 (Monochrome)	Not tested	Use OS driver	N/A	N/A
Deskjet 350C	Not tested	Win2k/XP: Ver 1.0	N/A	N/A
Deskjet 450	Yes	Win2k/XP: Ver 1.0 XP: Ver 1.8	N/A	N/A
Deskjet 460	Yes	Ver 1.1	N/A	N/A
Deskjet 1000C	Not Supported	N/A	N/A	N/A
Deskjet 1100/1120	Not tested	Win2k/XP: Ver 1.1	N/A	N/A
Deskjet 1125C	Not tested	Win2k/XP: 1120 driver	N/A	N/A
Deskjet 1220C	MetaFrame 1.8 only	Ver. 2.1	N/A	Ver. 2.1
Inkjet 2000C	Not tested	Ver. 3.1 lite	N/A	N/A
Inkjet 2500C	Not tested	Ver 3.1 lite	N/A	N/A
CP 1160	Yes	W2K Ver 4.3 lite XP: Ver 1.8	N/A	N/A
CP 1700	Yes	W2K Ver 1.1 lite XP: Ver 1.8	N/A	N/A
BIJ 1000	Yes	Ver. 1,0 2.233.10.0	N/A	N/A
BIJ 1100d	Yes	Ver 1.1	N/A	N/A
BIJ 1200d	Yes	Ver 1.0	N/A	N/A
BIJ 2200	Yes	PCL3 Ver 1.4	N/A	N/A
BIJ 2250	Yes	PCL5 Ver 1.4		PCL5/PS Ver 1.4
BIJ 2230	Yes	PCL3 Ver 1.0	N/A	N/A
BIJ 2280	Yes	PCL5 Ver 1.0	N/A	PCL5/PS Ver 1.0
BIJ 2300	Yes	Ver 1.0	N/A	N/A
BIJ 2600	Yes	PCL5 Ver 1.0	N/A	PCL5/PS Ver 1.0

HP printer	Supported in Citrix environment	HP-supported drivers*		
		PCL	Host-based	PS
BIJ 2800	Yes	Ver 1.0	N/A	N/A
BIJ 3000	Yes	PCL6/PCL5 Ver 1.0	N/A	PCL6/PCL5/PS Ver 1.0
Deskjet 9300	Yes	PCL3 Ver 1.0	N/A	N/A
Deskjet 9600 Series	Yes	PCL3 Ver 1.1	N/A	N/A
Deskjet 9800 Series	Yes	PCL3 Ver 1.0	N/A	N/A

* Driver versions more current than the versions stated in this table are also supported.

HP Deskjet printers and supported driver versions

HP recognizes the need for small inexpensive printing solutions for Citrix environments and offers a wide range of compatible products to meet the needs of Citrix users. HP recommends the use of Business Inkjets over consumer Deskjets whenever possible in Citrix environments for the following reasons:

- Lower cost per page when compared to consumer Deskjets.
- Faster print speeds in normal modes.
- Robust networking capabilities, comparable to HP LaserJets.
- Lower intervention rates with higher capacity paper trays and ink supplies.
- Higher reliability and duty load.
- More comprehensive testing in Citrix environments compared to consumer Deskjets.

HP recommends the following Business Inkjet products for Citrix environments:

- For small office applications (<100); the Business Inkjet 1100 is available with or without an onboard network ready solution.
- Commercial and enterprise network environments HP recommends the BIJ 2300.

If Deskjet printers are still the preferred choice for the Citrix environment, or existing Deskjet printers need to be supported, the table below identifies the HP Deskjet printers and associated drivers that are available for use in Citrix environments. Many of these printers and printer drivers have not been tested by HP. While these printers and drivers are not directly supported by HP, most customers will be able to use them without issue. A description of the driver work-around and known product limitations is included in this section.

HP printer	Supported in Citrix environment	HP-supported drivers*		
		PCL	Host-based	PS
Deskjet 1200C/1200PS	Not tested	Use OS Driver	N/A	N/A

HP printer	Supported in Citrix environment	HP-supported drivers*		
		PCL	Host-based	PS
Deskjet 1600C/1600PS	Not tested	Use OS Driver	N/A	N/A
Deskjet 400/400 Mono	Not tested	Use OS Driver	N/A	N/A
Deskjet 420	Not tested	W2K/XP: OS Driver	N/A	N/A
Deskjet 500 Series	Not tested	Use OS Driver	N/A	N/A
Deskjet 600/600Mono	Not tested	Use OS Driver	N/A	N/A
Deskjet 610/612	Not tested	W2K/XP: OS Driver	N/A	N/A
Deskjet 660	Not tested	Use OS Driver	N/A	N/A
Deskjet 670/672	Not tested	W2K/XP: OS Driver	N/A	N/A
Deskjet 680 Series	Not tested	W2K/XP: OS Driver	N/A	N/A
Deskjet 690 Series	Not tested	W2K/XP: OS Driver	N/A	N/A
Deskjet 695C/697C	Not tested	W2K/XP: OS Driver	N/A	N/A
Deskjet 840 Series	Not tested	Ver 4.3	N/A	N/A
Deskjet 850/855	Not tested	Use OS Driver	N/A	N/A
Deskjet 870	Not tested	Use OS Driver	N/A	N/A
Deskjet 880/882	Not tested	W2K/XP: OS Driver	N/A	N/A
Deskjet 890	Not tested	W2K/XP: OS Driver	N/A	N/A
Deskjet 895	Yes	Use OS driver or Ver 3.2	N/A	N/A
Deskjet 920C	Not tested	Ver. 4.3	N/A	4.0 (M model only)
Deskjet 930/932C	Not tested	Ver. 4.3	N/A	N/A
Deskjet 940C	Not tested	Ver. 4.3	N/A	N/A
Deskjet 950C	Not tested	Ver. 4.3	N/A	N/A
Deskjet 960C	Yes	Ver. 4.3	N/A	N/A
Deskjet 970Cse/Cxi	Yes	Ver. 4.3 or Commercial slim driver	N/A	N/A
Deskjet 980C	Yes	Ver. 4.3	N/A	N/A
Deskjet 990C	Yes	Ver. 4.3	N/A	N/A
Deskjet 995C	Yes	Ver. 4.3	N/A	N/A

HP printer	Supported in Citrix environment	HP-supported drivers*		
		PCL	Host-based	PS
Deskjet 5150 series	Yes	Ver. 8.4.5 or Commercial slim driver	N/A	N/A
Deskjet 5440 series	Yes	V.60.051.645 or Commercial slim driver	N/A	N/A
Deskjet 5550/ 5551	Yes	Ver. 7.1.0 or Commercial slim driver	N/A	N/A
Deskjet 5650 series	Yes	Ver. 8.4.5 or Commercial slim driver	N/A	N/A
Deskjet 5740 series	Yes	Ver. 10.4.0 Basic features driver or Commercial slim driver	N/A	N/A
Deskjet 5850 series	Yes	Ver. 8.4.5 or Commercial slim driver	N/A	N/A
Deskjet 5940 series	Yes	V.60.051.645 or Commercial slim driver	N/A	N/A
Deskjet 6120 series	Yes	Ver. 7.1.0 or Commercial slim driver	N/A	N/A
Deskjet 6127	Yes	Commercial slim driver	N/A	N/A
Deskjet 6500 series	Yes	Ver. 10.4.4 Basic features driver or Commercial slim driver	N/A	N/A
Deskjet 6620 series	Yes	V.12.3.1.0 Basic features driver or Commercial slim driver	N/A	N/A
Deskjet 6840 series	Yes	Ver. 12.2.0 Basic features driver or Commercial slim driver	N/A	N/A
Deskjet 6900 Series	Yes	Commercial Slim Driver	N/A	N/A

* Driver versions more current than the versions stated in this table are also supported.

LIDIL HP Deskjet printers

The table below identifies the HP Deskjet printers which use LIDIL (Lightweight Imaging Device Interface) printer language. These host-based printers and their associated drivers do not work in networked environments including Citrix and, therefore, are not recommended or supported in Citrix environments by HP.

HP printer	Supported in Citrix environment	HP-supported drivers*		
		PCL	Host-based	PS
Deskjet 710/712/720/ 722	Not Supported	N/A	N/A	N/A
Deskjet 810/812/815	Not Supported	N/A	N/A	N/A
Deskjet 820Cse/Cxi	Not Supported	N/A	N/A	N/A
Deskjet 3300 series	Not Supported	N/A	N/A	N/A
Deskjet 3400 series	Not Supported	N/A	N/A	N/A
Deskjet 3500 series	Not Supported	N/A	N/A	N/A
Deskjet 3660 series	Not Supported	N/A	N/A	N/A
Deskjet 3700 series	Not Supported	N/A	N/A	N/A
Deskjet 3800 series	Not Supported	N/A	N/A	N/A
Deskjet 3900 series	Not Supported	N/A	N/A	N/A
Deskjet D2300 Series	Not Supported	N/A	N/A	N/A
Deskjet D4100	Not Supported	N/A	N/A	N/A

* Driver versions more current than the versions stated in this table are also supported.

Using HP ink-based All-in-One and Photosmart printers

HP does not directly support the use of consumer ink-based All-in-One (AIO) and Photosmart products in Citrix environments. Customers who wish to use HP ink-based All-in-One and Photosmart printers in Citrix environments may use the associated Deskjet printer driver. Using an associated Deskjet driver will limit product use to printing; all other product features will be available on a walk-up basis (fax, scan, card readers, etc.) HP recommends downloading the 'basic features' or corporate drivers when using mapped drivers. HP All-in-One and Photosmart products that are leveraged from LIDIL based Deskjets are not supported. These products include the PSC and Officejet products leveraged from the Deskjet 3000 series.

HP printer	Supported in Citrix environment	HP-supported drivers*		
		PCL	Host-based	PS
Officejet 500/600	Not tested	Use Deskjet 660	N/A	N/A
Officejet Pro K550 series	Yes	PCL3 Ver 1.0	N/A	N/A
Officejet 700	Not tested	Use Deskjet 690	N/A	N/A
Officejet Pro K850 series	Yes	PCL3 Ver 1.0	N/A	N/A
Officejet 1150	Not tested	Use Deskjet 850	N/A	N/A
Officejet 1170/1175	Not Supported	N/A	N/A	N/A
Officejet D Series	Not Tested	Use Business Ink cp 1160	N/A	N/A
Officejet G Series	Not tested	Use Deskjet 970	N/A	N/A
Officejet H470	Yes	Ver 1.0	N/A	N/A
Officejet J4500/4640/4680	Yes	Ver 1.0	N/A	N/A
Officejet J5700	Yes	Ver 1.0	N/A	N/A
Officejet J6400	Yes	Ver 1.0	N/A	N/A
Officejet K Series	Not tested	Use Deskjet 970	N/A	N/A
Officejet Pro K5300 Series	Yes	Ver 1.0	N/A	N/A
Officejet Pro K5400 Series	Yes	Ver 1.0	N/A	N/A
Officejet Pro K5700 Series	Yes	Ver 1.0	N/A	N/A
Officejet Pro K8600 Series	Yes	Ver 1.0	N/A	N/A
Officejet Pro L7300 Series	Yes	Ver 1.0	N/A	N/A
Officejet Pro L7500 Series	Yes	Ver 1.0	N/A	N/A
Officejet Pro L7600 Series	Yes	Ver 1.0	N/A	N/A
Officejet Pro L7700 Series	Yes	Ver 1.0	N/A	N/A
Officejet R Series	Not tested	Use Deskjet 895	N/A	N/A
Officejet T Series	Not tested	Use Deskjet 895	N/A	N/A
Officejet V Series	Not tested	Use Deskjet 970	N/A	N/A

HP printer	Supported in Citrix environment	HP-supported drivers*		
		PCL	Host-based	PS
Officejet 4100 Series	Not Supported	N/A	N/A	N/A
Officejet 4200 Series	Not Supported	N/A	N/A	N/A
Officejet 5100 Series	Not Supported	N/A	N/A	N/A
Officejet 5500 Series	Not Supported	N/A	N/A	N/A
Officejet 5600 Series	Not Supported	N/A	N/A	N/A
Officejet 6000 Series	Yes	Ver 1.0	N/A	N/A
Officejet 6100 Series	Not tested	Use Deskjet 5550	N/A	N/A
Officejet 6200 Series	Not tested	Use Deskjet 5740	N/A	N/A
Officejet 6300 Series	Not tested	Use Deskjet 5900	N/A	N/A
Officejet 6500 Series	Yes	Ver 1.0	N/A	N/A
Officejet 7100 Series	Not tested	Use Business Ink cp 1160	N/A	N/A
Officejet 7200 Series	Not tested	Use Deskjet 6540	N/A	N/A
Officejet 7300 Series	Not tested	Use Deskjet 6540	N/A	N/A
Officejet 7400 Series	Not tested	Use Deskjet 6540	N/A	N/A
Officejet Pro 8000 Series	Yes	Ver 1.0	N/A	N/A
Officejet Pro 8500 All-in-One	Yes	Officejet Basic Driver – IT Professional Use only version 12.0.0	N/A	N/A
Officejet 9100 Series	Yes	Ver 1.0	N/A	N/A
PSC 750, 950	Not tested	Use Deskjet 970	N/A	N/A
PSC 1100 Series	Not Supported	N/A	N/A	N/A
PSC 1200 Series	Not Supported	N/A	N/A	N/A
PSC 1300 Series	Not Supported	N/A	N/A	N/A
PSC 1400 Series	Not Supported	N/A	N/A	N/A
PSC 1500 Series	Not Supported	N/A	N/A	N/A
PSC 1600 Series	Not Supported	N/A	N/A	N/A
PSC 2100	Not tested	Use Deskjet 5550	N/A	N/A
PSC 2170/2175	Not tested	Use Deskjet 5550	N/A	N/A
PSC 2200	Not tested	Use Deskjet 5550	N/A	N/A
PSC 2300	Not tested	Use Deskjet 5740	N/A	N/A
PSC 2400	Not tested	Use Deskjet 5650	N/A	N/A

HP printer	Supported in Citrix environment	HP-supported drivers*		
		PCL	Host-based	PS
PSC 2510	Not tested	Use Deskjet 5650	N/A	N/A
PSC 2600	Not tested	Use Deskjet 6540	N/A	N/A
PSC 2700	Not tested	Use Deskjet 6540	N/A	N/A
PS 2575 AIO	Not Supported	N/A	N/A	N/A
PS 3110 AIO	Not Supported	N/A	N/A	N/A
PS 3210 AIO	Not Supported	N/A	N/A	N/A
PS 3310 AIO	Not Supported	N/A	N/A	N/A
Photosmart C3100 All-in-One series	Not Supported	N/A	N/A	N/A
Photosmart C4100 All-in-One series	Not Supported	N/A	N/A	N/A
Photosmart C5100 All-in-One series	Not Supported	N/A	N/A	N/A
Photosmart C6100 All-in-One series	Not Supported	N/A	N/A	N/A
Photosmart C7100 All-in-One series	Not Supported	N/A	N/A	N/A
Deskjet F300 All-in-One series	Not Supported	N/A	N/A	N/A
PS P-1000	Not tested	Use Deskjet 970Cxi	N/A	N/A
PS P-1100	Not tested	Use Deskjet 970Cxi	N/A	N/A
PS 1115	Not tested	Use Deskjet 990	N/A	N/A
PS1215/1218	Not tested	Use Deskjet 990	N/A	N/A
PS 1315	Not tested	Use Deskjet 990	N/A	N/A
PS 7150	Not tested	Use Deskjet 5550	N/A	N/A
PS 7260	Not Supported	N/A	Yes	N/A
PS 7300	Not tested	Use Deskjet 5550	N/A	N/A
PS 7400	Not Supported	N/A	Yes	N/A
PS 7500	Not Supported	**	N/A	N/A
PS 7600	Not tested	Use Deskjet 5650	N/A	N/A
PS 7700	Not tested	Use Deskjet 5650	N/A	N/A
PS 7800	Not tested	Use Deskjet 6540	N/A	N/A
PS 7900	Not Supported	**	N/A	N/A

HP printer	Supported in Citrix environment	HP-supported drivers*		
		PCL	Host-based	PS
PS 8000	Not tested	Use 5900 Commercial Slim Driver	N/A	N/A
PS 8100	Not tested	Use Deskjet 6540	N/A	N/A
PS 8200	Not Supported	N/A	N/A	N/A
PS 8400	Not Supported	**	N/A	N/A
PS 8700	Not Supported	**	N/A	N/A

* Driver versions more current than the versions stated in this table are also supported.

** 7550, 7900, 8400 and 8700 are PCL3 devices but use 3 cartridge print assemblies which are not supported by the Deskjet base drivers.

HP Designjets and supported driver versions

HP printer	Supported in Citrix environment	HP-supported drivers*		
		HPGL2	Host-based (PCL3 GUI)	PS
DJ 70/90	Not tested	N/A	Not tested	N/A
DJ 100/110	Not tested	N/A	Not tested	N/A
DJ 30/130	Yes	N/A	6.03	N/A
DJ 500	Yes	N/A	5.35 6.03	N/A
DJ 500 + HPGL2 card	Yes	5.35 6.11	5.35 6.03	N/A
DJ 800	Yes	5.35 6.11	N/A	4.29
DJ 5500	Yes	6.13	N/A	4.29
DJ 1050/1055	Yes	4.66	N/A	4.29
DJ 4000	Yes	6.10	N/A	60.42.341.0
DJ 4500	Yes	6.19	N/A	61.071.362.31
DJ T1100	Yes	61.73.362.41	N/A	61.73.362.41

* Driver versions more current than the versions stated in this table are also supported.

Resolved issues

Autocreation performance in Citrix

The UPD versions 4.1, 4.5, 4.7 and discrete print driver versions 61.071.xxx.xx and 61.081.xxx.xx have a known performance issue when autocreating printers at user login. The process msiexec.exe might consume CPU resources and slow autocreation of the printer as well as other applications hosted on the Citrix server for a certain amount of time. UPD version 5.0 has the fix for this issue.

In general, the time it takes to autocreate a printer using the HP UPD or a discrete HP print driver version 60.xxx.xxx.xxx or 61.xxx.xx.xxx will be anywhere from 2-10 seconds, depending upon the performance and load of the print spooler and other processes on the Citrix server. This is due to the initialization of the HP UPD or discrete print driver.

When using the Citrix StressPrinters tool and testing the HP UPD, selecting the default LPT1: port from the StressPrinters tool will provide install times that are not accurate. The HP UPD attempts to communicate with the printer over the LPT1 port and will timeout after a long period of time. The true simulation of the HP UPD is to run StressPrinters from a Citrix server and select a Citrix redirected port that is connected to a live network printer.

HKCU\Software\Hewlett-Packard registry hive increases in size in Citrix

Print driver versions 61.071.xxx.xx fail to clean up registry data written to the HKEY_CURRENT_USER\Software\Hewlett-Packard registry hive. Keys under this hive will grow over time. A new registry key is created each time a user logs onto a Citrix server for each printer autocreated. An example of such a key is HKEY_CURRENT_USER\Software\Hewlett-Packard\165b5934-15c4-4a84-c392-d044915211da where 165b5934-15c4-4a84-c392-d044915211da is a GUID (globally unique identifier). HPBIDIInfo or HPCUSTOMForms will be keys in the GUID hive. Newer version of the print driver, such as version 61.081.xxx.xx or the latest HP Universal Print Driver, has a fix for this issue.

Memory leaks and memory corruption causing possible spooler crash, spooler hang, failed autocreation, failed autocreated printer cleanup, and server performance degradation

hpbmini.dll issue

This issue occurs with 60.x.x.x and 4.x.x.x. print drivers containing hpbmini.dll version 1.0.0.18 or older. Version 1.0.0.19 and newer has the fix. The memory leaks and memory corruption possible with the 1.0.0.18 (or older) dll will not cause a spooler crash, but can degrade performance of the server.

Version 4.x.x.x print drivers have an issue unloading hpbmini.dll which will likely cause a spooler crash when the server has a heavy load of connected users.

hpcdmc32.dll issue

This issue occurs with 60.x.x.x and 4.x.x.x print drivers containing hpcdmc32.dll version 1.0.2.30 or older. Version 1.0.2.31 and newer has the fix. The most recent version of hpcdmc32.dll is 1.0.2.35. The memory leaks possible with the 1.0.2.30 (or older) dll will not cause a spooler crash but may cause performance degradation.

Other symptoms caused by the above components include failed autocreation of printers and autocreated client printers not deleted when users log off.

Solution

To determine if these are issues affecting a server and for a workaround, rename hpbmini.dll and hpcdmc32.dll in the windows\system32\spool\drivers\w32sx86\3 directory and remove hpbmini.dll from DependentFiles registry entry in HKLM\SYSTEM\CurrentControlSet\Control\Print\Environments\Windows NT x86\Drivers\Version-3\<driver> hive.

For HP print drivers version 4.x.x.x, it is strongly recommended to upgrade to the 60.x.x.x or 61.x.x.x driver versions available on hp.com. If one is not available, then use the HP Universal Print Driver. For

existing 60.x.x.x drivers with these suspected issues it is strongly recommended to upgrade to the latest driver available on hp.com

Autocreation of HP printer fails with Citrix

This issue occurs when an HP PCL driver (version 4.3.x.x to 4.20.x.x.) is installed on the server. When Citrix autocreates using an older HP driver, the process halts and any remaining printers fail to autocreate. To resolve this situation, update the HP driver on the server to the version listed in the tables above.

Client driver settings lost during autocreation

This is a limitation of Citrix MetaFrame 3.0 and older versions. Driver settings, such as tray configuration, duplexer, printer memory, and quick sets are not read at autocreation. Paper size and orientation are the only client settings that are read during autocreation. The remaining settings are determined by the default settings of the driver installed on the server.

Citrix has provided this functionality in Presentation Server 4.0. The server must be 4.0 and the client must be a 32-bit Windows client with at least ICA version 9.0.

If Feature Release 1/Service Pack 1 or later is installed on a MetaFrame XP Server, go to the properties of the autocreated printer and configure the driver for features manually, then set the tray configuration, duplexer, and hard disk settings. The settings will be saved to the user's profile when the user logs out. Printer settings will be restored the next time the user logs in. This feature is available in environments running MetaFrame XP with Feature Release 1 and Service Pack 1 or greater.

Inability to print with certain HP drivers in Citrix MetaFrame 1.8 SP3 or earlier

With any of the following HP print drivers: BIJ1100, DJ450, CP1700, DJ9600, DJ9300, CP1160, the user logs in for the first time and printing functions correctly. When the user logs off and logs back in again, printing is no longer functional.

Citrix has provided the fix in MetaFrame 1.8 Service Pack 4.

Unresolved issues

HP Deskjet printer drivers will not load under non-administrator privileges

HP does not recommend the use of "host-based" printers in Citrix environments. Host-based printers rely upon the bulk of the rendering to be done on the host machine by the host-based driver and are designed for direct-connect, non-networked environments. As a result, host-based print jobs can be considerably larger than PCL-based jobs, which is undesirable when printing over constrained bandwidth connections. An alternative is to use the Citrix Universal Print Driver or Universal Printing System to print to a host-based client printer.

Microsoft issues

HP printer with DOT4 port on client does not create a redirected printer in Terminal Server

This issue does not occur with Citrix, only with Terminal Server. If an HP printer is connected to a client with a USB DOT4 port, then no redirected printer is created when logging onto a Terminal Server. Microsoft has a workaround described in the knowledge base article 302361.

Supported printing features

All printing features of the driver are supported in Terminal Server/Citrix environments with the exception of bi-directional communication to client printers. Bi-directional communication to networked printers is unaffected.

Frequently asked questions

Question: Is my HP printer supported in a Citrix environment by HP?

Answer: Check the LaserJet, Business Inkjet, Designjet, Deskjet, and ink-based All-in-One and Photosmart printer sections of this white paper to see if your printer is listed as supported.

Question: Is a certain HP print driver certified in Citrix?

Answer: Citrix does not certify print drivers. However, HP and Citrix do test print drivers and printers in Citrix Presentation Server 4.0/4.5 and XenApp 5.0. To determine if a certain printer is supported, check the LaserJet, Business Inkjet, Deskjet, and Ink-based All-in-One and Photosmart printer sections of this white paper. All support for a printer and print driver is claimed by HP and provided by HP.

Question: How do I configure my Citrix server to map print drivers, use and configure the Citrix UPD, or configure and session network printers?

Answer: Consult the Citrix Advanced Concept Guide and other online documentation from citrix.com.

Question: Why do my autocreated printer settings not reflect the correct printer settings from my client printers?

Answer: Citrix Presentation Server 4.0/4.5 and XenApp 5.0 and the Citrix UPD have the ability to read the local printer settings from the client. The server must be at least 4.0 and the client must be a 32-bit or x64 Windows client with at least ICA version 9.0.

Question: Can I use my All-in-One, mfp, or scanner connected to my client to scan to applications within my Citrix ICA session?

Answer: Yes. Citrix Presentation Server 4.0 /4.5 or XenApp 5.0 with a 32-bit or x64 Windows client and ICA 9.0 supports TWAIN devices directly connected to the client.

Question: Where can I download the Windows Server 2003 driver for Deskjet, PSC, Officejet, and Photosmart printers?

Answer: HP does not develop Microsoft Windows Server 2003 drivers for consumer based inkjet products. Microsoft recommends using XP drivers which should work without issue.

Citrix-tested HP printers

Citrix tested the following HP LaserJet, Business Inkjet, Designjet and Deskjet printers and their associated 32-bit and 64-bit drivers with Citrix XenApp Server 5.0. Throughout the testing, no problems were encountered when running Citrix test cases with the HP printers and drivers listed for each test case.

Printers tested	Software tested
HP Deskjet 5650	Citrix XenApp Server 5.0
HP Deskjet D2360	XenApp Plugin for Hosted Apps, version 11.x
HP LaserJet 3020	HP Universal, PCL, PS printers & 32-bit/64-bit drivers
HP Officejet Pro K5400	
HP Officejet Pro L7680 All-in-One	
HP Deskjet 5440	
HP Business Inkjet 1100	
HP Officejet 720	
HP LaserJet 3200	
HP LaserJet 4000	
HP Designjet 4000 PostScript	
HP Color LaserJet 3000	

Testing methodology for HP printers

Printer setup – Printers were connected to both client and server systems, and as stand-alone network printers using HP Jetdirect print server devices. Printers were connected to client and server systems using parallel cables and USB cables.

Note on hardware used – Varied client and server systems from numerous manufacturers were used throughout the testing process; the number of systems and configurations are outside the scope of this document.

Note on printer drivers used – The 32-bit and 64-bit printer driver versions listed are the driver versions that were available at time of testing. Newer driver versions may be available.

Note on description – This is a base description of the feature and what it does.

Note on test methodology – This is a basic summary of the testing that was performed on the feature. Actual testing is much more extensive and, therefore, beyond the scope of this document.

Network print servers

Description

Network print servers (not running Citrix XenApp Server) are servers with shared printers attached to them. Administrators import these network print servers into the Citrix XenApp Server farm to make the shared printers available to all users when they connect to the server farm.

Test methodology

HP LaserJet/Business Inkjet/Designjet/Deskjet printers were attached to the print server using a parallel cable, USB or installed by creating a TCP/IP port and connecting to the printer through Jetdirect. These printers were configured for multiple users. Drivers for the printers were downloaded from the HP Driver Support website.

The network print server was imported into the Citrix XenApp Server farm, and the availability of shared printers was verified. A printer policy was then created for Session printers and a User filter created for the Session printer policy for domain users, allowing domain users logged on to the XenApp server farm to verify that the shared network printer was available in the client session, and that the client could print successfully.

Printer model tested	Driver version tested
HP Color LaserJet 3000	HP Color LaserJet 3000 Series PCL (61.53.25.9) & HP Color LaserJet 3000 Series PS(61.71.661.41)
HP LaserJet 4000	HP LaserJet 4000 Series PCL6 (4.27.4000.0)
HP Business Inkjet 1100	HP Business Inkjet 1100 Series (2.236.2.0)
HP Deskjet D2360	HP Deskjet D2300 Series (60.61.243.0)
HP Deskjet 5440	HP Deskjet 5400 Series (60.51.645.0)
HP Designjet 4000 PostScript	HP Designjet 4000ps PS3 (61.71.362.31)

Known issues with network print server and HP printers and drivers

No issues were discovered when testing the Citrix XenApp Server Import Network Server feature using the HP LaserJet/Business Inkjet/Designjet/Deskjet printers and drivers listed above.

Printer policies

Description

Policies are used to apply Citrix XenApp Server settings for client device mapping, for example, to specific users, clients, and servers. Policies override similar settings configured farm-wide at the server level or on the client. Printer policies are used for configuring settings such as autocreation, legacy client printers, printer property retention print job routing, printer mapping, printer driver configuration, and session printers

Test methodology

An HP LaserJet/Business Inkjet/Designjet/Deskjet printer was attached to the client system using a parallel cable or USB cable. The printer was installed on the client system and drivers for the printers were downloaded from the HP Driver Support website.

The client system connected to the Citrix XenApp server farm. Each type of printer setting that is configurable by printer policies was checked to verify operability with the HP printers and drivers and to ensure that the client could print successfully.

Printer model tested	Driver version tested
HP Deskjet D2360	HP Deskjet D2300 Series (60.61.243.0)
HP LaserJet 3020	HP LaserJet 3020 PCL 5e (60.5.72.21) & HP LaserJet 3020 PS (60.5.72.21)
HP Officejet Pro K5400	HP Officejet Pro K5400 Series (60.62.241.0)
HP Officejet Pro L7680 All-in-One	HP Officejet Pro L7600 Series (61.63.263.21)

Known issues with printer management properties and HP printers and drivers

No issues were discovered when testing the Citrix XenApp Server printer management properties using the HP LaserJet/Business Inkjet/Designjet/Deskjet printers and drivers listed above.

Session printers

Description

With Citrix XenApp Server, policy-based session printers are defined as those printers attached locally to a server running Citrix XenApp Server or to a shared printer that was imported from a network print server. When the Session printers policy is applied to a user and the user logs on to a server farm, the printers that are configured for that user are created in the session automatically without requiring an installation of the printer drivers or printer on the client's system.

Test methodology

HP printers were attached to Citrix XenApp Servers using parallel cables, or were installed by creating TCP/IP ports and connecting to the printers using Jetdirect. These printers were configured for multiple users. Drivers for the printers were downloaded from the HP Driver Support website.

The client system connected to the XenApp server farm, which verified that the shared HP printers were available in the user's session and that the client could print successfully to the shared farm printers.

Printer model tested	Driver version tested
HP Color LaserJet 3000	HP Color LaserJet 3000 Series PCL (61.53.25.9) & HP Color LaserJet 3000 Series PS(61.71.661.41)
HP LaserJet 4000	HP LaserJet 4000 Series PCL6 (4.27.4000.0)
HP Business Inkjet 1100	HP Business Inkjet 1100 Series (2.236.2.0)
HP Deskjet D2360	HP Deskjet D2300 Series (60.61.243.0)
HP Deskjet 5440	HP Deskjet 5400 Series (60.51.645.0)
HP Designjet 4000 PostScript	HP Designjet 4000ps PS3 (61.71.362.31)

Known issues with autocreation printers and HP printers and drivers

No issues were discovered when testing the Citrix XenApp Server printer policy-based session printers feature using the HP LaserJet/Business Inkjet/Designjet/Deskjet printers and drivers listed above.

Client printer properties

Description

Client printer properties are the settings that control the configuration of printers installed on the client system. These settings are configured locally on the client's desktop. Some of the more common settings are propagated to the autocreated client printer in the user's session.

Test methodology

An HP LaserJet/Business Inkjet/Designjet/Deskjet printer was attached to the client device using a parallel cable or USB cable. The printer was installed on the client system and drivers for the printers were downloaded from the HP Driver Support website.

Setting changes were made to the HP LaserJet/Business Inkjet/Designjet/Deskjet printer installed locally on the client system, and then the client system connected to the Citrix XenApp server farm. The settings were propagated and the client was able to print successfully.

Printer model tested	Driver version tested
HP Deskjet D2360	HP Deskjet D2300 Series (60.61.243.0)
HP Officejet Pro K5400	HP Officejet Pro K5400 Series (60.62.241.0)
HP LaserJet 3020	HP LaserJet 3020 PCL 5e (60.5.72.21) & HP LaserJet 3020 PS (60.5.72.21)
HP Officejet Pro L7680 All-in-One	HP Officejet Pro L7600 Series (61.63.263.21)
HP Deskjet 5440	HP Deskjet 5400 Series (60.51.645.0)
HP LaserJet 3200	HP LaserJet 3200 Series PCL 5e Printer Driver (4.3.2.209)

Known issues with client printer properties and HP printers and drivers

No issues were discovered when testing the client printer properties using the HP LaserJet/Business Inkjet/Designjet/Deskjet printers and drivers listed above.

Universal printer

Description

Autocreation of client printers requires drivers for client printers to be available on servers running Citrix XenApp Server. When you use universal printing you do not need to install native printer drivers in your server farm, the client printers are autocreated using Citrix Universal printing.

Test methodology

An HP LaserJet/Business Inkjet/Deskjet printer was attached to the client system using a parallel cable or USB cable. The printer was installed on the client system. Because printer drivers are not needed to test the Universal printer, only HP printers are tested with this feature.

The client system connected to the XenApp server farm, which verified that the client's locally attached HP printers were available in the user's session and that the client could print successfully to the client's locally attached HP printers.

Printer model tested	Driver version tested
HP Deskjet D2360	HP Deskjet D2300 Series (60.61.243.0)
HP Officejet Pro K5400	HP Officejet Pro K5400 Series (60.62.241.0)
HP LaserJet 3020	HP LaserJet 3020 PCL 5e (60.5.72.21) & HP LaserJet 3020 PS (60.5.72.21)
HP Officejet Pro L7680 All-in-One	HP Officejet Pro L7600 Series (61.63.263.21)

Printer model tested	Driver version tested
HP Deskjet 5440	HP Deskjet 5400 Series (60.51.645.0)
HP LaserJet 3200	HP LaserJet 3200 Series PCL 5e Printer Driver (4.3.2.209)
HP Designjet 4000 PostScript	HP Designjet 4000ps PS3 (61.71.362.31)

Known issues with printer management properties and printers and drivers

No issues were discovered when testing the Citrix Universal Printer using the HP LaserJet/Business Inkjet/Deskjet printers listed above.

Autocreated client printers

Description

Autocreated client printers are printers that are connected to ports on users' Win16 and Win32 client devices, Windows CE, DOS, and Macintosh OS platforms

Test methodology

An HP LaserJet/Business Inkjet/Designjet/Deskjet printer was attached to the client system using a parallel cable or USB cable. The printer was installed on the client system and drivers for the printers were downloaded from the HP Driver Support website.

The client system connected to the XenApp server farm, which verified that the client's locally attached HP printers were available in the user's session and that the client could print successfully to the client's locally attached HP printers.

Printer model tested	Driver version tested
HP Deskjet D2360	HP Deskjet D2300 Series (60.61.243.0)
HP Officejet Pro K5400	HP Officejet Pro K5400 Series (60.62.241.0)
HP LaserJet 3020	HP LaserJet 3020 PCL 5e (60.5.72.21) & HP LaserJet 3020 PS (60.5.72.21)
HP Officejet Pro L7680 All-in-One	HP Officejet Pro L7600 Series (61.63.263.21)
HP Deskjet 5440	HP Deskjet 5400 Series (60.51.645.0)
HP LaserJet 3200	HP LaserJet 3200 Series PCL 5e Printer Driver (4.3.2.209)

Printer model tested	Driver version tested
HP Designjet 4000 PostScript	HP Designjet 4000ps PS3 (61.71.362.31)

Known issues with client printer performance and HP printers and drivers

No issues were discovered when testing autocreated client printers using the HP LaserJet/Business Inkjet/Designjet/Deskjet printers and drivers listed above.

Printer driver compatibility

Description

Some printer drivers can cause server problems when printing to client printers in the Citrix XenApp Server farm. Printing to a client printer with a problematic driver can result in a fatal system error on the server. Because of this, you might need to prevent the autocreation of client printers that use specific printer drivers. The printer driver compatibility feature allows you to designate or prohibit drivers for use with client printers.

Test methodology

An HP LaserJet/Business Inkjet/Designjet/Deskjet printer was attached to the client system using a parallel cable or USB cable. The printer was installed on the client system and drivers for the printers were downloaded from the HP Driver Support website.

In the Management Console for Citrix XenApp Server, the driver for the HP printer was configured to allow the autocreation of the client printer using that particular HP driver. The client then connected to the Citrix XenApp Server farm and the autocreation of the client printer was verified. The client printer was able to print successfully.

Subsequently, in the Management Console for Citrix XenApp Server, the driver for the HP printer was configured to disallow the autocreation of the client printer using that particular HP driver. The client then connected to the Citrix server farm and the client printer was not autocreated. There were no issues with preventing the HP LaserJet/Business Inkjet/Designjet/Deskjet printer from being autocreated.

Printer model tested	Driver version tested
HP Deskjet D2360	HP Deskjet D2300 Series (60.61.243.0)
HP Officejet Pro K5400	HP Officejet Pro K5400 Series (60.62.241.0)
HP LaserJet 3020	HP LaserJet 3020 PCL 5e (60.5.72.21) & HP LaserJet 3020 PS (60.5.72.21)
HP Officejet Pro L7680 All-in-One	HP Officejet Pro L7600 Series (61.63.263.21)

Printer model tested	Driver version tested
HP LaserJet 3200	HP LaserJet 3200 Series PCL 5e Printer Driver (4.3.2.209)
HP Designjet 4000 PostScript	HP Designjet 4000ps PS3 (61.71.362.31)

Known issues with printer driver compatibility and HP printers and drivers

No issues were discovered when testing the Citrix XenApp Server printer driver compatibility feature using the HP LaserJet/Business Inkjet/Designjet/Deskjet printers and drivers listed above.

Client printer driver mapping

Description

When using Citrix XenApp Server clients, you map printer drivers to identify printer drivers that have different names for the same printer on different Windows platforms. You need to use mapping if the printer drivers installed on Citrix XenApp Servers have names for client printers different from the drivers used on client systems running Windows 9x.

Test methodology

An HP LaserJet/Business Inkjet/Designjet/Deskjet printer was attached to the client system using a parallel cable or USB cable. The printer was installed on the Windows 9x client system, and drivers for the printers were downloaded from the HP Driver Support website and installed on the Citrix XenApp Server.

A printer driver with a different name than the HP driver installed on the server was installed on the client system. The client printer driver was mapped to the HP printer driver installed on the server. The client connected to the Citrix XenApp Server farm and the autocreation of the client printer was verified. The client printer was able to print successfully.

Printer model tested	Driver version tested
HP Deskjet D2360	HP Deskjet D2300 Series (60.61.243.0)
HP Officejet Pro K5400	HP Officejet Pro K5400 Series (60.62.241.0)
HP LaserJet 3020	HP LaserJet 3020 PCL 5e (60.5.72.21) & HP LaserJet 3020 PS (60.5.72.21)
HP Officejet Pro L7680 All-in-One	HP Officejet Pro L7600 Series (61.63.263.21)
HP Deskjet 5440	HP Deskjet 5400 Series (60.51.645.0)

Printer model tested	Driver version tested
HP LaserJet 3200	HP LaserJet 3200 Series PCL 5e Printer Driver (4.3.2.209)
HP Designjet 4000 PostScript	HP Designjet 4000ps PS3 (61.71.362.31)

Known issues with client printer driver mapping and HP printers and drivers

No issues were discovered when testing client printer driver mapping with Citrix XenApp Server using the HP LaserJet/Business Inkjet/Designjet/Deskjet printers and drivers listed above.

Printer driver replication

Description

To install printer drivers on a Citrix XenApp Server, use the standard Windows printer installation methods. The Add Printer wizard requests printer information and copies the necessary driver files. You may need to run a Windows installation CD-ROM or media for the printer. When using the wizard to install drivers on a XenApp Server, the actual printer is not attached to the server.

After you install drivers, use the driver replication feature in the Management Console for Citrix XenApp Server to copy the driver files and registry settings to other servers in the server farm. Use the replication feature to save time when you install printer drivers, and to ensure that all drivers are available on all servers where Citrix XenApp Server clients need them. Replicating printer drivers in the server farm ensures that the XenApp Server client users can print to the client and network printers in the farm.

Test methodology

HP LaserJet/Business Inkjet/Designjet/Deskjet printers were attached to a Citrix XenApp Server using parallel cables, USB cables or were installed by creating a TCP/IP port and connecting to the printer using Jetdirect. The printers were configured for multiple domain users. Drivers for the printers were downloaded from the HP Driver Support website.

The shared printers in the server farm were configured through a Session printer policy and the HP drivers for the shared Citrix XenApp Server printers were replicated to other servers in the farm. The client system connected to a Citrix XenApp Server that did not have HP LaserJet/Business Inkjet/Designjet/Deskjet printers attached, but that did have HP drivers replicated to it. The availability of the Session printer in the Citrix XenApp Server session was verified and the Session printer was able to print successfully.

Printer model tested	Driver version tested
HP Color LaserJet 3800	HP Color LaserJet 3800 PS (61.071.661.41) & HP Color LaserJet 3800 PCL6 (61.071.661.41)

Printer model tested	Driver version tested
HP Color LaserJet 4600	HP Color LaserJet 4600 PS (61.53.25.9) & HP Color LaserJet 4600 PCL5 (61.53.25.9)
HP Business Inkjet 2300	HP Business Inkjet 2300 PCL5 (61.53.25.9)
HP Deskjet 5440	HP Deskjet 5400 Series (61.53.25.9)

Known issues with printer driver replication and HP printers and drivers

No issues were discovered when testing the Citrix XenApp Server printer driver replication feature using the HP LaserJet/Business Inkjet/Designjet/Deskjet printers and drivers listed above.

Citrix-tested HP Scanners/All-in-One devices

Citrix tested the following HP Scanners/All-in-One devices and their associated drivers with Citrix XenApp Server 5. Although these devices are multi-functional, Citrix only tested the scanning capability of the Scanners/All-in-One devices listed below. All other functionality of these devices was not tested by Citrix. Throughout the testing, no problems were encountered when running Citrix test cases with the HP Scanners/All-in-One devices and drivers listed for each test case.

Scanner tested	Software tested
HP Officejet Pro L7680 All-in-One	Citrix XenApp Server 5 XenApp Plugin for Hosted Apps, version 11.x

Testing methodology for HP All-in-One devices

Scanners/All-in-One setup – Scanners/All-in-One devices were connected to client using SCSI cables and USB cables.

Note on client systems used – Varied client and server systems from numerous manufacturers were used throughout the testing process; the number of systems and configurations are outside the scope of this document.

Note on Scanner/All-in-One drivers used – The Scanner/All-in-One driver versions listed are the driver versions that were available at time of testing. Newer driver versions may be available.

Note on description – This is a base description of the feature and what it does.

Note on test methodology – This is a basic summary of the testing that was performed on the feature. Actual testing is much more extensive and, therefore, beyond the scope of this document.

TWAIN Redirection

Description

Citrix XenApp Server can now redirect client-connected imaging devices, notably document scanners, from the client to the server. This allows users to control client-attached imaging devices from applications that run on the server.

Test methodology

An HP Scanners/All-in-One device was attached to the client system using a SCSI cable or USB cable. The Scanner/All-in-One device was connected to the client system and drivers for the Scanner/All-in-One device were either downloaded from the HP Driver Support website or installed from the CD-ROM supplied with the Scanner/All-in-One device.

The client system connected to the XenApp server farm, which verified that the TWAIN compatible applications in a Citrix XenApp Server session could recognize and utilize the Scanner/All-in-One device for scanning within the TWAIN compliant application.

Printer model tested	TWAIN driver version tested
HP Officejet Pro L7680 All-in-One	HP Officejet Pro L7600 Series (61.63.263.21)

Known issues with TWAIN Redirection and HP Scanners/All-in-One devices.

No issues were discovered when testing TWAIN Redirection using the HP Scanners/All-in-One devices listed above.

Planned future testing

HP LaserJet/Business Inkjet/Designjet/Deskjet printers and Scanner/All-in-One devices testing is planned to continue on the next release of Citrix XenApp Server and newer model HP LaserJet, Business Inkjet, Designjet, Deskjet printers and Scanner/All-in-One devices will be added to the test matrix.

Feedback

To help us improve our documents, please provide feedback at http://h20219.www2.hp.com/ActiveAnswers/us/en/solutions/technical_tools_feedback.html.

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