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DECUS Symposium 2003

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Agenda



- DCPS Update
- DCPS V2.2
- DCPS V2.3
- DCPS Future Enhancements and Directions
- HP Printers
- Problems and Solutions
- Tips and Tricks

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DCPS Update - DCPS V2.1



- Shipped August 2002
- Added support for 21 new printer models
 - HP LaserJet 2200, 4100, 9000
 - HP Color LaserJet 4600
 - Genicom cL160, mL402, mL450, LN45
 - IBM InfoPrint 21, 32, 40
 - Lexmark C720, C910
 - Lexmark T520, T522, T620, T622
 - Lexmark W820
 - Xerox DocuPrint N24, N32, N40

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DCPS Update - DCPS V2.1



- New support for punching
- Stapling support for more HP printers
- Installed DCPS version displayed in DCPS\$VERSION logical name
- Minor bug fixes

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DCPS Update - DCPS V2.2



- Shipped in February 2003
- Adds support for 9 new printer models
 - HP Color LaserJet 2500, 5500
 - HP LaserJet 4200, 4300, 5100
 - HP LaserJet 4100mfp, 9000mfp
 - Genicom Intelliprint mL260
 - Lexmark C750
- Most HP LaserJet printers, past and present, are now supported

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DCPS V2.2



- New "Generic HP" class of printer
 - HP setup modules now in DCPS\$DEVCTL.TLB
 - LPS\$\$HPGENERIC_INITPSDEVICE
 - LPS\$\$HPGENERIC_SETINPUTTRAY
 - LPS\$\$HPGENERIC_SETOUTPUTTRAY
- Contains: paper sizes, tray names, commands, features and PCL native mode known to work with other HP printers
- OPCOM message similar to this will be seen:

%%%% OPCOM 6-MAR-2003 14:18:25.22 %%%%

Message from user System on Munich

Queue New_Printer: %DCPS-W-HPGENERIC, Product name hp LaserJet 9999 not recognized; assuming HP Generic

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- Autostart queues supported
 - Specify AUTOSTART_ON in P2 parameter of an execution queue in DCPS\$startup.com

- · Details:
 - Same protocol and device must be used on all nodes
 - The printer device must be available on all nodes
 - DCPS must be installed and configured on all nodes
 - Node names must be spelled correctly no check made

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DCPS V2.2



- Faster "setup" mode for startup
 - DCPS\$STARTUP can run in shortened setup mode
 - Can be used with autostart queues
 - Necessary logicals are defined but no queues are created, modified or started
- How to use setup mode
 - Copy the new dcps\$startup.template to dcps\$startup.com
 - Add site specific info
 - In P1 use @sys\$startup:dcps\$startup setup
 - DCPS creates DCPS\$STARTUP SETUP.COM
 - This is used when DCPS\$STARTUP.COM is run

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- Port number is now optional
 - In P2 of DCPS\$startup.com, if no port is given, 9100 is assumed

- Bug fix:
 - Output Tray SIDE now works for HP LaserJet 8000, 8100, 8150
- Restrictions:
 - The DCPS\$queuename_no_sync true is mandatory for HP LaserJets 2500, 5500, 4200, 4300
 - The HP LaserJet 2500 cannot detect the size of paper in its trays:

Not possible to select media by paper size

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DCPS V2.2



Problems found since V2.2 was released:

- Requesting stapled output on HP LaserJet 8000, 8100, 8150 and 9000 resulted in an error
 - %DCPS-W-UNDEF, undefined: Name not known offending command is kaka
- Running the startup procedure in setup mode, when DCPS\$STARTUP.COM has been changed since the last time a setup file was created, results in running startup in setup mode. No message indicating this condition is displayed.
- Contact CSSC for 2 updated files to fix these problems

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- Scheduled to ship Q3 or Q4 2003
- Adds support for new printers
 - HP Color LaserJet 9500, LaserJet 2300
 - Two new HP copier/printer MFP's
- LPR support
 - Generic support for uni-directional printers
- Support for Non-HP multi-function devices
- First step in reducing DCPS dependence on hard-coded data and bi-directionality
- More features possible in future releases
- IPV6?
- Itanium?

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Future DCPS Enhancements



- LPR enhancements
 - Tray selection
 - Other printer-specific features
- PPD parser
 - Eliminate or reduce need for new DCPS release to support new printers
 - Need for PPD parser reduced by cooperation between DCPS Engineering and IPG in Boise
 - Use of PPD parser no substitute for actual testing

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Future DCPS Enhancements



- DCPS\$STARTUP.COM alternative
 - Syntax too complex and error-prone (especially P2)
 - Data file could store queue information
- IPP (Internet Printing Protocol)
 - No plans to implement
 - Not being enhanced by IPG
 - No plans to implement
 - Not strategic to HP or Microsoft
 - No plans to implement

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Future DCPS Directions



- New types of printers?
 - Today's supported printers are mostly networked lasers
 - Future supported printers could be inkjet or USB
- New user features?
 - Selection by media type
 - e.g. PARAMETER=MEDIA_TYPE=colored
- New system management features?
 - Defining queue characteristics with another printer model
 - e.g. /PRINTER_MODEL=hplj4300

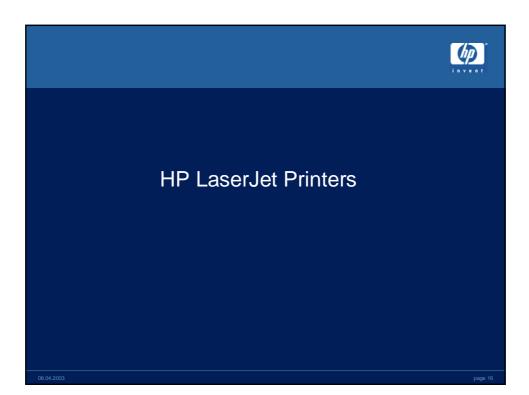
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HP and DCPS: Questions from Engineering



- Customer expectations
 - What do customers (you!) expect now that OpenVMS and IPG are both HP?
- How can OpenVMS help?
 - How can OpenVMS/DCPS help with your printing solutions?
- Is OpenVMS still important for your printing needs?
 - Are other operating systems pushed for printing solutions?
 - Should OpenVMS be mentioned in printer marketing and/or literature?

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HP LaserJet Model Designations



- - = base unit (LaserJet 2300)
- -D = base unit + duplexer (LaserJet 2300D)
- -DT = base unit + duplexer + extra paper tray (LaserJet 2300DT)
- -DN = base unit + duplexer + NIC (LaserJet 2300DN)
- -DTN = base unit + duplexer + extra paper tray + NIC (LaserJet 2300DTN)
- -S = + stacker
- -sL = + stacker/stapler
- -H = + hard disk

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HP LaserJet 2300 Series





- Newest Laserjet printer
- 24 ppm
- 1200 x 1200 dpi
- 1st page prints after 10 sec.
- 48MB memory
 - upgrade to 304MB
- PCL 5e, PCL 6, PostScript Level 3 emulation
- Duplex
- 1 x 250 sheet tray, 1 x 100 sheet multi-purpose tray
 - 250 and 500 sheet trays optional
 - 850 sheets maximum

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HP LaserJet 2300 Series



- Embedded Web Server
- Parallel port, USB port, NIC
- 50.000 Pages/month duty cycle
- 6000 Pages per toner cassette
- Models: 2300, 2300D, 2300N, 2300DN, 2300DTN

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HP LaserJet 4200/4300 Series





- 33 ppm / 43 ppm
- 1200 x 1200 dpi
- 1st page in under 8.5 seconds
- 48 MB / 64 MB memory
 416 MB maximum
- PCL 5e, PCL6, PostScript Level 3, HP-GL/2
- Duplex
- ALL-in-one print unit contains toner, drum and developer
- Paper trays 600 sheets standard, up to 2,600 sheets
- Stapler and LCOT optional

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HP LaserJet 4200/4300 Series





- 10 GB hard disk optional
- · Parallel port, NIC
- 150.000 pages/month LJ 4200
- 200.000 pages/month LJ 4300
- Models: -N, -TN, -DTN, -DTNSL

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HP LaserJet 5100





- 22 ppm with A4 format
- 11 ppm with A3 format
- 1200 x 1200 dpi
- Instant-On-Technology
- 32 MB memory, 192 MB maximum
- PCL 5e, PCL 6, PostScript Level 3
- Duplex
- 250 sheet tray + 100 sheet multifunction tray standard
 - Optional 250 and 500 sheet trays
 - Maximum 1100 sheets
- · Parallel port, NIC
- 65.000 pages/month duty cycle
- Models: 5100, 5100TN, 5100DTN

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HP Color LaseJet 2500





- 4 ppm color, 16ppm b/w
- Instant-On-Technology
- 600 x 600 dpi
- 64 MB memory, 256 MB maximum
- No duplex (manual possible)
- Parallel port, USB port, NIC
- PCL 5, PCL 6 and PostScript Level 3
- 125 sheet multipurpose tray
 250 sheet tray, 500 sheet tray
- 30.000 pages/month duty cycle
- Models: 2500, 2500N, 2500TN

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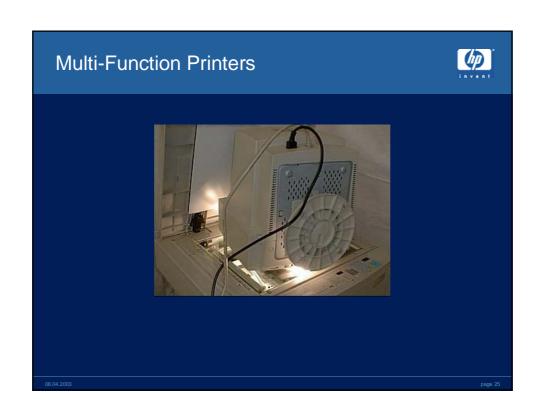
HP Color LaserJet 5500





- 22 ppm color and black & white
- A4 and A3 paper
- 600 x 600 dpi
- 96 MB memory, 416 MB maximum
- PCL 5c, PCL 6, PostScript Level III
- Duplex
- Parallel port, NIC
- 1 x 500 sheet tray, 1 x 100 sheet tray
 - 500 sheet optional tray
 - Maximum 1600 sheets
- 120.000 pages/month duty cycle
- Models: 5500, 5500N, 5500DN, 5500DTN, 5500HDN

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• Functionality: Printing Copying - Color and black & white scanning

- Digital sending of documents • Convert to JPEG, TIFF or PDF file

HP Multifunction Printers

- Send per e-mail
- Print and send simultaneously
- Control panel with keyboard for local operation

HP LaserJet 4100 MFP





- 24 ppm A4 printing and copying
- 1200 x 1200 dpi
- 64 MB memory standard
 256 MB maximum
- 10 GB hard disk standard
- Duplex optional
- PCL 5e, PCL6, PostScript Level 3
- Standard 600 sheet input tray
 - 500 sheet optional trays
 - 1600 sheets maximum
- · Bidirectional parallel port, NIC
- 150.000 pages/month duty cycle
- 10.000 pages per toner cassette

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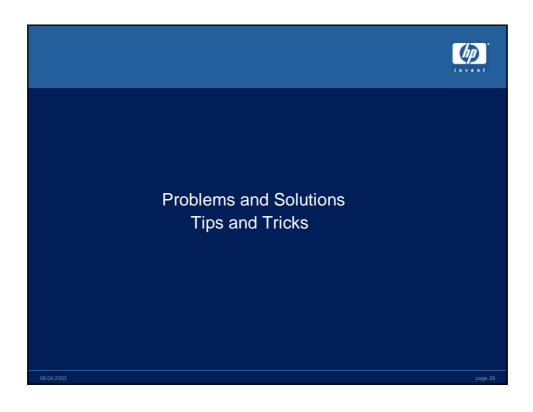
HP LaserJet 9000 MFP





- 50 ppm A4 print and copy
- 28 ppm A3 print and copy
- 600 x 600 dpi
- 128 MB memory, 384 MB maximum
- 5 GB hard disk
- Duplex: printing, copying, scanning
- 4 paper trays 3,100 sheets
- Bidirectional parallel port, NIC
- Stacker/stapler optional
- 300.000 pages/month duty cycle

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- Undocumented logical new to DCPS V2.2
 - Def/sys/exec DCPS\$queuename_HPGENERIC true
 - Can be used with unsupported printers
 - DCPS uses the HP Generic library modules instead of the unrecognized modules
 - Good if your printer is "baugleich" with HP's. The unrecognized modules do not have to be modified

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Windows 2000 LPD Printing



- Problem:
 - LPR print job spools in endless loop or jobs hang.
- Solution:

Check the printer and NIC idle timeout and ps wait timeout. The default is usually between 15 and 90 seconds. Set the timeout in the printer and the NIC to 300 seconds.

Note: Check user printer driver properties and ensure that the same timeout values are set there, too!

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Windows 2000 Pinting Problems: General Troubleshooting



- Error messages caused by Local Port Monitor problems:
 - Spoolsv.exe failed to start when rebooting the computer
 - Out of Resources Error on opening the printer's properties
 - Access Violation (with Dr. Watson) when printing and the spooler stops
 - The instruction at address referenced memory at address.
 The memory could not be read when printing and the spooler stops
- These problems occur if the default local port monitor has been changed by an application.

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Port Monitor continued



- Fix the problems by editing the registry
 - HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Print\Monitors\LocalPort
 - Double click Driver subkey and change the string value to Localspl.dll (if it has been changed)
 - Check for any non-default monitors in:
 - HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Print\Monitors
 - Default monitors are: AppleTalk Printing Devices

BJ Language Monitor

Local Port

PJL Language Monitor

Standard TCP/IP Port

USB Monitor

Fax Monitor

- Delete non-standard monitors

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Windows 2000 Printing



- Dr. Watson greets you when you try to start the spooler:
 - An application error has occurred and an application error log is being generated.
 Spoolss.exeException: access violation (0xC0000005),Address:
 - Application exception occurred:App:spoolss.dbg (pid=)
 Exception number: c0000005 (access violation)
- This is usually caused by a corrupted spool file.
- Solution is to delete any .shd and .spl files in the spool directory.

Delete any related .tmp files in the Temp folder.

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Windows 2000 Printing



- Problem: Jobs often reprint
 Finished spool file is not deleted
- Caused when some program or user has set the read-only attribute on the spool file at %Systemroot%\System32\Spool\Printers
- Solution:

Right click the spool file, select *Properties*, and clear the *read-only* attribute.

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Windows Printing



• Error:

Event ID 2510 – The server service was unable to map error code 1722.

- This is often caused by a corrupt JetAdmin port monitor.
- Solution is to delete JetAdmin and either download the latest version or reinstall the current version.

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Windows LPD Printing



- How to configure Windows 2000 for LPR with an HP JetDirect Card:
 - In Control Panel, Network Connections add Print Services for Unix
 - Add New Printer
 - Local Printer (Not a Network Printer!)
 - Create New Port
 - LPR Port
 - Type in the IP address under: Name or address of server providing LPD
 - Under: Name of printer or print queue on that server type raw, raw1, raw2, or raw3 depending on the port

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Windows 2000 Drivers



- How to add a network printer managed by NT 4.0 to a Windows 2000 computer:
 - On the Windows 2000 copmuter, install the printer locally on LPT1. This installs the driver.
 - Click Start, Settings, Printers
 - Right-click the printer and click Properties
 - On the Ports tab, click LPT1
 - Click Add Port
 - Double-click Local Ports
 - Type \\servername\printshare
 - Click OK

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Windows 2000 Print Server



- How to disable broadcasting available printers on a print server.
- Edit the following in the registry:
 HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Print

Add Value of type REG_DWORD with a value name of DisableServerThread and set the data value to 1

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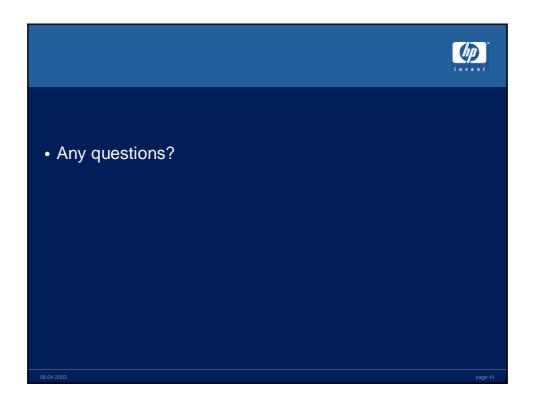
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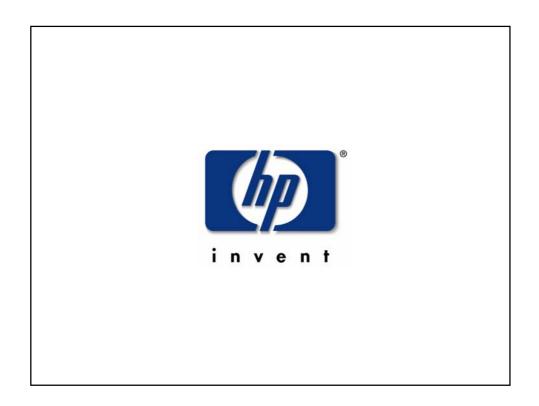
Printing Images



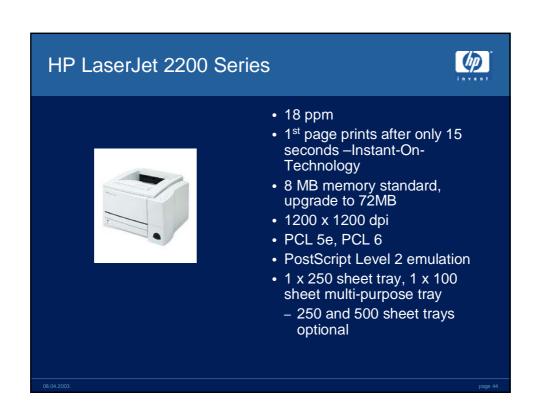
- MSPAINT and other images do not print in the correct size; either too large or too small.
- This is because the image is not adjusted for video resolution
- My tip: paste the image into a Wordpad document.
 Here you can properly resize the image, and then print the document.

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+Parallel port, USB port, Fast Infrared port are standard -NIC optional +Duplex +40.000 Pages/month duty cycle, +5000 Pages/Toner Cassette +Models: 2200, 2200D, 2200DT, 2200DN, 2200DTN