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Agenda



- DCPS General Description
- DCPS Update
 - DCPS Current Release V2.4
 - DCPS Future Release V2.5
- New HP LaserJet Printers
- RoHS
- Printing Problems and Solutions
- Q & A

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What is DCPS?



- Full name is DECprint Supervisor (DCPS) for OpenVMS
- OpenVMS “print driver” for PostScript printers
 - Sends PostScript and most PCL jobs to printer without translation
 - Translates ANSI, PCL, ReGIS, Proprinter, Tektronix to PS
 - Communicates with printers
 - Separately installed layered product
 - Integrity: O/S DVD (FOE Software Bundle component)
 - Alpha and VAX: Software Products Library CD
 - Provides support for
 - Most HP LaserJet and Color LaserJet printers
 - Digital and Compaq laser printers
 - Many Genicom, Lexmark, Xerox, IBM, Apple printers
 - Offers generic support for other PostScript printers

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DCPS V2.4



- Current version - now shipping
 - With OpenVMS V8.2 (Alpha and Integrity Servers)
 - On Software Product Library Q1 CY2005 (Alpha & VAX)
- New features
 - I64 support
 - Media type selection
 - PCSI installation
 - Reads cluster-wide logical names
 - Unsupported printers assumed to have a PCL interpreter
 - Third-party TowerFeed 444 supported for LaserJet 9000
 - PRODUCT_NAME logical syntax requirements relaxed

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DCPS V2.4 (continued)



- New printer support
 - HP
 - 9085 MFP
 - Color LaserJet 2550
 - Color LaserJet 4650
 - Color LaserJet 5550
 - Color LaserJet 9500 MFP
 - LaserJet 2410, 2420, 2430
 - LaserJet 4250, 4350
 - LaserJet 4345 MFP
 - Xerox
 - Phaser 4500, 6250, 7300, 7750, 8400

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DCPS V2.5

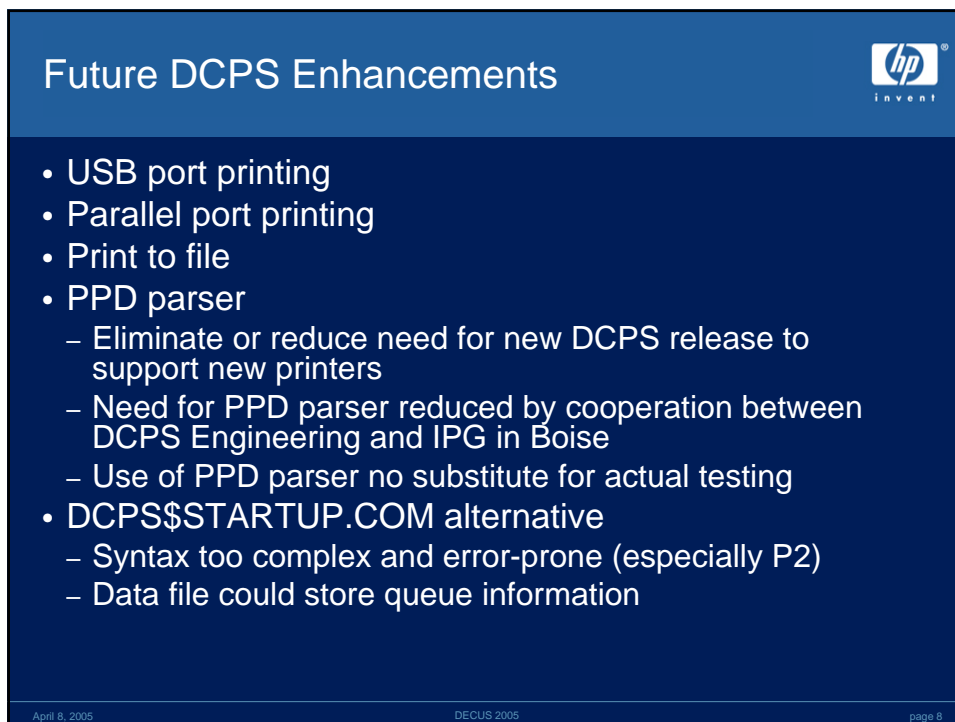
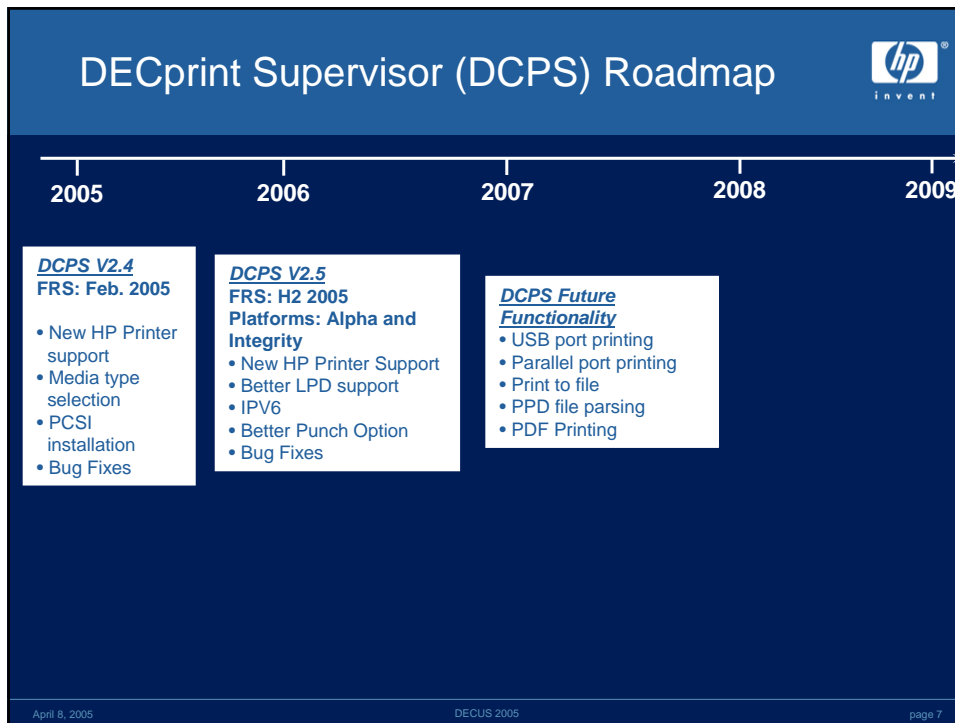


- Available H2 CY2005
- Field test Q2 CY2005
- New features
 - Better LPD support
 - Will support all LPD printers (e.g. Xerox Document Centre)
 - Requires temporary spool files to be created
 - Default will be V2.3 behavior
 - New behavior enabled for each queue or system-wide
 - IPv6 support
 - New printers
 - USB printing (possible)
 - Better punch support

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Future DCPS Enhancements



- PDF printing
 - New HP printers have non-DCPS direct PDF printing
 - PDF-to-PostScript translator could work with all printers
- Printing to other destinations
 - USB
 - File
 - Parallel port
- DCPS\$STARTUP.COM alternative
 - Syntax too complex and error-prone (especially P2)
 - Data file could store queue information

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Better New Printer Support



- Problem
 - Printer models are released at a fast pace
 - Customers must wait for a new release for new printer support
- Solution
 - Existing methods
 - Paper can now be selected by media type
 - Unsupported printers now assumed to have PCL interpreter
 - Improved timeliness by getting HP printers well before release
 - “Generic HP” printer type
 - Unsupported PRODUCT_NAME logical name

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Better New Printer Support (continued)



- Possible future methods
 - Mid-release ECOs or patches
 - PPD parser
 - Eliminate or reduce need for new release to support new printers
 - Use of PPD parser not a substitute for actual testing

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Future DCPS Directions



- New types of printers?
 - Today's supported printers are mostly networked lasers
 - Do we need support for inkjets (e.g. Business InkJet)?
 - Do we need support for DesignJets?
 - Do we need support for low-end lasers (e.g. LaserJet 1300)?
- New user features?
- New system management features?

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New HP Color LaserJet Printers

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HP Color LaserJet 2550 Series

- **Color LaserJet 2550**
 - 4-Pass color technology
 - 264 MHz Processor
 - 19 Pages/min BW, 4 Pages/min Color
 - 600 DPI (2400 DPI with ImageRET)
 - Duty cycle: 30,000 Pages/month
 - Models: 2550L, LN, N
 - Memory: 64MB standard, max. 192 MB
 - 125 Sheets input 2550L and 2550LN
 - 250 Sheets input 2550N
 - USB port, parallel port and Jetdirect card
 - PCL6 and PostScript Level 3 emulation



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HP Color LaserJet 3550



- **Color LaserJet 3550**



- In-line color laser technology
- „Host based intelligence“
- 16 Pages/min in B&W and color
- 600 DPI, 2400DPI with ImageREt
- Duty cycle: 45,000 pages/month
- Models:
 - 3550 has USB port
 - 3550N has external JetDirect to USB
- 64 MB memory both models
- 350 sheets input, 850 max
- Print language is „HP JetReady“

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HP Color LaserJet 4650 Series



- **Color LaserJet 4650**



- In-Line color laser technology
- 533 MHz Processor
- 22 Pages/min B&W and color
- 600 DPI (3600 DPI with ImageREt)
- Duty cycle: 85,000 per month
- Models: 4650, N, DN, DTN, HDN
- Memory: 160MB Std.
 - DTN, HDN 256MB, 544MB maximum
 - 20GB disk optional
- 600/1600 sheet input tray configurations
- USB port, parallel port and Jetdirect
- PCL6 and PostScript Level 3 emulation
 - PCL5c optional web download

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HP Color LaserJet 5550



- **HP Color LaserJet 5550**
 - In-Line color laser technology
 - 533MHz CPU
 - 28 pages/minute B&W and color
 - 600 DPI
 - Duty cycle:120,000 pages/month
 - Models: 5550, DN, DTN, HDN
 - Memory: 160/288MB std., 544MB max
 - 20GB disk
 - 600 sheet input tray configuration std.
 - 2100 sheets maximum
 - DIN A3
 - USB port, Parallel port, Jetdirect card and Jetlink interface
 - PCL 5c, PCL6, PostScript Level 3 emulation



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New HP LaserJet Printers

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HP LaserJet 1320



- **LaserJet 1320**



- Low end B&W laser printer
- 133 MHz CPU
- 21 pages/minute
- 1200 x1200 DPI
- Duty cycle: 10,000 pages/month
- Models: 1320, N, NW, TN
- Memory:16 MB std., 144 MB maximum
- 250 sheet input tray, 250 optional
- Duplex is standard
- USB port, parallel port, internal Jetdirect card
- PCL5e, PCL6, PostScript Level 2 emulation

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HP LaserJet 2420



- **HP LaserJet 2420**



- B&W Laser printer
- 400MHz CPU
- 28 pages/minute
- 1200 x 1200 DPI
- Duty cycle: 75,000 pages/month
- Models: 2420, D, N, DN
- Memory: 32MB/48MB D/64MB N, DN
– 320MB maximum
- 350 sheets input tray, 500 sheet tray optional
- USB port, parallel port, internal JetDirect card
- PCL5e, PCL6, PostScript Level 3 emulation
- Direct PDF printing (128MB memory required)

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HP LaserJet 2430



- **HP LaserJet 2430**



- B&W Laser printer
- 400MHz CPU
- 33 pages/minute
- 1200 x 1200 DPI
- Duty cycle: 100,000 pages/month
- Models: 2430T, TN, DTN
- Memory: 48MB T/64MB TN,DTN
 - 320MB maximum
- 350 sheets input tray, 500 sheet tray optional
- USB port, parallel port, internal JetDirect card
- PCL5e, PCL6, PostScript Level 3 emulation
- Direct PDF printing (128MB memory required)

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HP LaserJet 4250



- **HP LaserJet 4250**



- B&W Laser printer
- 460MHz CPU
- 43 pages/minute
- 1200 x 1200 DPI
- Duty cycle: 200,000 pages/month
- Models: 4250, N, TN, DTN, DTNSL
- Memory: 48MB /64MB N, TN/80MB DTN
 - 512MB maximum
- 600 sheet input trays 4250, N
- 1,100 sheet input trays TN, DTN, DTNSL
 - 3,100 sheets maximum input
- USB port, parallel port, internal JetDirect card
- PCL5e, PCL6, PostScript Level 3 emulation
- Direct PDF printing (128MB memory required)

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HP LaserJet 4350



- **HP LaserJet 4350**



- B&W Laser printer
- 460MHz CPU
- 52 pages/minute
- 1200 x 1200 DPI
- Duty cycle: 250,000 pages/month
- Models: 4350, N, TN, DTN, DTNSL
- Memory: 64MB /80MB N, TN/96MB DTN
 - 512MB maximum
- 600 sheet input trays 4350, N
- 1,100 sheet input trays TN, DTN, DTNSL
 - 3,100 sheets maximum input
- USB port, parallel port, internal JetDirect card
- PCL5e, PCL6, PostScript Level 3 emulation
- Direct PDF printing (128MB memory required)

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HP LaserJet 4345 MFP




- B & W Multifunction laser printer
- 533 MHz CPU
- 43 pages/minute
- 1200 x 1200 DPI
- Duty cycle: 200,000 pages/month
- Memory: 256MB standard; 512MB maximum
- 600/1100 sheet input trays standard
 - 2100 sheets maximum input
- Parallel port and Jetdirect internal NIC
- PCL6, PCL5e, PostScript Level 3 emulation + PDF and XHTML

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HP LaserJet 9050



- **HP LaserJet 9050**
 - B&W Laser printer
 - 533MHz CPU
 - 50 pages/minute
 - 1200 x 1200 DPI
 - Duty cycle: 300,000 pages/month
 - Models: 9050, N, DN
 - Memory: 64MB /128MB N, DN,
 - 512MB maximum
 - 1,000 sheet input trays 9050
 - 1,100 sheet input trays N, DN
 - 3,100 sheets maximum input
 - DIN A4, A3
 - Parallel port, internal JetDirect card
 - PCL5e, PCL6, PostScript Level 3 emulation
 - Direct PDF printing


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Current HP Laser Printers

- **LaserJet Printers:**
 - LaserJet 9050
 - LaserJet 9000
 - LaserJet 8150
 - LaserJet 5100
 - LaserJet 4250/4350
 - LaserJet 2430
 - LaserJet 2420
 - LaserJet 1320
 - LaserJet 1160
 - LaserJet 1000 series
- **Color LaserJet Printers:**
 - Color LaserJet 9550
 - Color LaserJet 5550
 - Color LaserJet 4650
 - Color LaserJet 3700
 - Color LaserJet 3550
 - Color LaserJet 3500
 - Color LaserJet 2550


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Current HP Laser Printers



- **Multifunction Printers:**
 - LaserJet 9085 MFP
 - LaserJet 9065 MFP
 - LaserJet 9055 MFP
 - LaserJet 9050 MFP
 - LaserJet 9040 MFP
 - LaserJet 4345 MFP
 - LaserJet 4100 MFP
- **Color Multifunction Printers:**
 - Color 9850 MFP
 - Color LaserJet 9500 MFP

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HP and RoHS

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The RoHS Directive



- The EU Directive, „Restriction of the use of certain hazardous substances in electrical and electronic equipment“ (RoHS –2002/95/EC) was adopted by the EU Parliament on December 18, 2002 and came into force on February 13, 2003.
- Effective July, 1 2006, RoHS will severely restrict the use of six hazardous substances in electronics including lead, mercury, cadmium, hexavalent chromium and two halide-containing flame retardants: PBB (polybrominated biphenyls) and PBDE (polybrominated diphenyl ethers).

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HP and RoHS




- „HP is committed to compliance with all applicable laws and regulations, including the EU RoHS Directive. HP’s goal is to exceed compliance obligations by meeting the requirements of the RoHS Directive on a world-wide basis. By July 1, 2006, RoHS substances will be virtually eliminated (to levels below legal limits) for all HP electronic products subject to the RoHS Directive, except where it is widely recognized that there is no technically feasible alternative (as indicated by an exemption under the EU RoHS Directive).“
- **More information; www.hp.com/environment**

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Printing Problems and Solutions

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DCPS and HP LaserJet 9000

- Problem: The HP LaserJet 9000 hangs after long idle time or power save mode. The latest printer firmware is installed.
- Solution: This tends to be seen when the printer is set to personality „Automatic“. A workaround is to set the printer to personality „PostScript“.

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DCPS V2.4 and LaserJet 49.4C02 Errors



- Problem: Certain LaserJet printers display a firmware error: 49.4C02 Service Error after a printjob has been sent from DCPS. (This has been seen on LJ4350, LJ9050, CLJ4650 and CLJ 5550)
- Solution: Will be fixed in new printer firmware releases

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DCPS and Opcom Messages



- Problem: With RAW_TCP queues, DCPS-W-NOT_Ready opcom messages are sent when a printer is not available. When printers are used heavily, the messages are seen frequently.
- These opcom messages cannot be disabled

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Kernel-Mode Drivers



- Problem: Error message seen on XP and Windows 2003 systems— „*The current printer driver is not compatible with a policy enabled on your computer that blocks Windows NT or Windows 2000 kernel-mode drivers*“
 - Background: Kernel-mode drivers have access to system-wide memory and can cause STOP errors
 - The system behavior towards kernel-mode printer drivers is controlled by a Group Policy Object
- Solution: XP; Local Computer Policy / Computer Configuration / Administrative Templates / Printers / Disallow installation of printers using kernel-mode drivers
 - If you enable this GPO, the installation of kernel-mode printer drivers will be prevented

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Kernel-Mode Drivers continued



- Solution: Windows 2003; Local Computer Policy / Computer Configuration / Administrative Templates / Printers / Disallow installation of printers using kernel-mode drivers
or
Default Domain Controller Policy / Computer Configuration / Administrative Templates / Printers / Disallow installation of printers using kernel-mode drivers
 - If you do not configure this policy, the installation of kernel-mode printer drivers will be blocked.
 - If you enable this policy and kernel-mode drivers are already installed, they will be disabled the when you install a service pack or perform an in-place update.
 - Kernel-mode drivers cannot be installed on Intel 64-bit Itanium computers.

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Windows 2003 Printer Driver Installation



- **Problem:** When you try to use the Add Printer Wizard to add a printer to a virtual server that is part of a Microsoft Windows Server 2003 cluster, you may receive an error message that is similar to the following after the Wizard has completed:
Unable to install Printer. The Print Processor does not exist
- **Background:** This problem may occur when trying to install a third-party printer driver that includes a print processor
- **Solution:** See KB835609 - a hotfix is available from Microsoft

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Spooler Service and High CPU Usage



- **Problem:** CPU usage remains at over 50% and the following is in the error log;
 - **Event ID: 2007**
 - **The LPR print monitor failed to open the port named xxxxx**
- **Cause:** The spooler service tries to print the job endlessly if the LPR port name for an LPD printer cannot be resolved by using DNS
- **Solution:** Stop the queue and delete the port in question. There is also a hotfix available from Microsoft under KB81098

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Windows and PostScript Printer Trays



- Problem: Windows 2000/2003; Word documents are incomplete when printing a document with multiple pages to multiple printer trays on a PostScript printer. **If you select a specific tray for the first page and a different tray for the remaining pages, only the first page is printed.**
- Background: Media selection information sent by the print driver is incomplete
- Solution: See KB 834695 - a hotfix is available from Microsoft



Any questions?

