

HP Universal Print Driver For Windows Installation and Deployment Strategies (Based on Driver Version 3.0)

INDEX

- 1.0 Purpose and intended audience**
- 2.0 Document layout**
- 3.0 How to use this document**
- 4.0 How are the UPD deployment options different from traditional drivers?**
- 5.0 Considerations -- Is the UPD a good fit for your environment?**
- 6.0 Using the UPD in a managed environment.**
 - 6.1 Exporting XML printlist from Web JetAdmin**
 - 6.2 Managing the UPD using new UPD management tools: MPA and Active Directory Templates.**
- 7.0 Deploying the UPD in your environment**
 - 7.1 Printing Using Standard Microsoft Print Servers**
 - 7.15 Printing Using HP Proliant Servers and Software Solutions**
 - 7.2 Printing with Microsoft Cluster Servers**
 - 7.3 Mobile Printing**
 - 7.4 Printing Using Novell iPrint Servers**
 - 7.5 Printing using Novell NDPS**
 - 7.6 Printing within a Microsoft Terminal Server /Citrix environment**
 - 7.7 Printing via Direct IP method**
- 8.0 3rd party solutions**
- 9.0 Solutions**

1.0 Purpose and Intended Audience

The intended audience for this document is anyone who has responsibilities for installing, maintaining, and managing printer drivers in your company infrastructure.

This whitepaper assumes that you have a basic understanding of the functionality of the UPD. (Please refer to the Service Administrators Guide for technical information on the Universal Print Driver.) This document outlines the installation and deployment strategies for integrating the Universal Print Driver in your environment. This whitepaper is based on Version 3.0 of the Universal Print Driver which is available for download. Earlier versions of the UPD may behave differently. We recommend that you

use UPD version 3.0 or later when following these recommendations. To download the latest version, please access:

www.hp.com/go/upd

Note: The HP Universal Print Driver is currently available in three versions which support PCL5, PCL6, or PostScript, respectively. . The instructions and recommendations in this document apply to all three versions of the UPD unless otherwise stated.

2.0 Document layout

This whitepaper is divided into the following sections:

How to use this guide: This section explains how this document can assist you in the making the correct installation and deployment decisions when installing the UPD.

How do the installation options differ from a traditional discrete printer driver? This section shows the different common methods for installing the UPD and how they differ from discrete drivers.

UPD considerations: Review this section to determine if the UPD is the correct solution for your particular environment.

Using the UPD in a managed environment: Compares printer management tools available for the UPD.

Deploying the UPD in your environment: Select from this section the environment(s) that most closely resembles your current print environment, then follow guidelines for installing the UPD in that environment.

Third Party Solutions: Provides information on extended solutions from HP's printing partners.

3.0 How to use this document

This document is designed to provide you with options and recommendations to allow you to customize your installation experience based on your current printing environment and your printing goals and objectives. Although your environment will vary slightly from the installation models below, you should be able to utilize the recommendations we have created in this document so your UPD installation will be smooth and have the least

impact to your printing environment. In some cases you will use more than one solution provided in the information below.

If you are installing the UPD using common installation procedures: Please look first at the table below “Common Installation Options – UPD vs. Discrete (Traditional) Printer Drivers”. This may answer many of your questions quickly.

If you have a specialized environment, please READ the section: “UPD Considerations” first.

4.0 How are the UPD deployment options different from traditional drivers?

This section compares the installation features of the UPD and how they might differ from the installation options of the discrete (or traditional) printer drivers. In some cases, the installation routines between the two driver types are identical and should be familiar to you.

Common Installation Options – UPD vs. Discrete (Traditional) Printer Drivers

Install Method	HP UPD	HP Discrete driver	Notes
Add Printer Wizard	Yes	Yes	Identical functionality
Add Printer Driver Wizard Note: This tool is used in several functions such as: Replace driver within properties page : Property → Advanced → New Driver	Yes	Yes	Identical functionality Note: For both Add Printer and Add Printer Driver Wizard Installations, download the driver from the HP website first, and then run APW or APDW. The driver will be automatically loaded in traditional mode
Point and Print for Print-Servers to Client environments	Yes	Yes	Use the Point and Print functionality to manage and deploy the printer drivers from print servers to the Client PCs. Use the UPD in traditional mode to get the same functionality as the discrete drivers. HP's UPD supports the Microsoft Point and Print environment when installed in

			<p>“Traditional Mode” on the print server. Clients simply connect to a print share and the UPD driver will be pushed down to the client automatically. The UPD behaves exactly the same as the HP discrete drivers. Install the UPD either by using the Add Printer Driver Wizard and pointing to the hpmcpdpc.inf file or use the UPD’s install.exe command and select Traditional mode for the UPD.</p> <p>When migrating existing print queues over to the UPD on the print server, the UPD driver will automatically be pushed to the client PCs the next time the printer is selected. This will be done with no intervention to the client. As with the discrete drivers changes made to the driver or settings at the server level are downloaded to the client PC automatically.</p>
Use Microsoft SMS or Tivoli to install Printer driver	Yes	Yes	<p>When using MSM or Tivoli to create install scripts to push the print driver to the client PCs, the UPD comes with an extensive set of switches which will allow the administrator to customize the printer driver installation to match their environment. To see the complete list of switches available, at the command prompt in the folder where the UPD was expanded, type install /? Here are examples of possible install scripts with the explanation of each script following:</p> <p>Install /q /h /dst /sm192.168.1.1 /n"color printer pole r4" (Installs the UPD in quiet mode and hide the dialog screen This has the effect of making the driver install invisible to the user.) /dst</p>

			(Disables the Services tab) /sm192.168.1.1 (Creates a printer on the client PC and binds it to the IPP address given.) /n"printer name" (Gives the printer the name specified)
Use WJA	Yes	Yes	See Section 6.1 “Exporting XML Printlist from Web JetAdmin”
Use Installation CD that comes with printer	No	Yes	Currently the UPD cannot be installed using most HP product installation CD’s.
Use new UPD Install.exe software	Yes	No	The UPD Install.exe is provided specifically for the UPD and allows for custom installation of the printer driver. Refer to Service Admin Guide

5.0 UPD Considerations – “Is the UPD right for my environment?”

The UPD is an ideal solution for most printing environments. Some environments, however, may be better suited for HP’s discrete (or traditional) drivers. Please consider the following to determine if the UPD is the correct solution to your printing environment.

1) Since the UPD is a single driver that can be bound to multiple printers on a server or client PC, upgrading the UPD driver for one queue will in effect upgrade the driver for all printers installed on the machine. This means that it is not possible to “upgrade a few of the queues” instead of all of them. In most cases, this is the desired behavior and will reduce the number of upgrades and procedures you will have to go through when updating your printer drivers.

2) The UPD is supported and tested on HP printers only. This should not be an issue in environments where multiple vendor devices exist. Simply migrate all of the HP printers over to the UPD and use the vendor specific drivers for the rest.

3) The Universal Print Driver relies on the ability to communicate directly to the printing device to gather specific configuration information. It communicates to these devices through the SNP protocol sending SNMP “get” commands and requires bi-directional communication to work properly. If your environment requires that SNMP protocol be disabled or community names be set on the devices then the UPD will not correctly configure itself and you will see a lack of printing capabilities at the devices.

6.0 Using the UPD in a Managed Environment?

6.1 Exporting XML Printlist from Web JetAdmin

Using Web JetAdmin Printer Export Data:

HP Managed Print Administration has the capability to convert WJA exported printer information into HP Managed Printer List content. There are two steps to the process:

Export Discovered Printers / Printer Groups from Web JetAdmin:

The following document provides step by step directions for exporting WJA printer information to an XML document. HP MPA can read XML data only.

http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&cc=us&objectID=c00042633&jumpid=reg_R1002_USEN

Import the Printer / Group information into Managed Printer List database

Below are the steps and associated screens which will be used to import the printer/group information:

1) Open Managed Print Administration

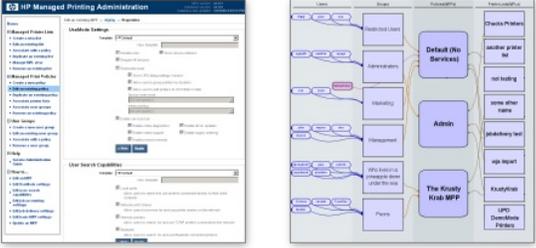
HP Managed Printing Administration - Windows Internet Explorer

http://hmpa-test/hmpa/

Welcome to the HP Managed Printing Administration control panel

This tool will allow you to manage your network printers and control the ways in which the users on your network can print. Choose an interface from the options below to launch the tool.

Classic interface **Graph interface**



A new window will be launched as you enter. If the window does not appear, please disable your browser's pop-up blocking functionality and try again. Once the new window has appeared, you are free to close this window if you like.

Done Local intranet 100%

2) Create / Edit a Managed Printer List

Open the Managed Printer Lists navigation menu and select either "Create a New List" or "Edit an Existing List"

HP Managed Printing Administration - Windows Internet Explorer

HP Managed Printing Administration

MPA version: v1.3.8
Database version: v1.1.7
Database last updated: 2/9/2007 6:49:47 AM

Home

- Managed Printer Lists
 - Create a new list
 - Edit an existing list**
 - Associate with a policy
 - Duplicate an existing list
 - Manage MPL view
 - Manage virtual printers
 - Remove an existing list
- Managed Print Policies
- User Groups
- Help

What is the Managed Print Administration Tool?

The MPA tool is an automated way to create the components of a controlled and customized print environment using HP's Universal Print

Managed Print Policy

MPP is an XML document that controls the driver operation mode in a particular printing environment.

- Control resides at the network level and not at the client level.
- Can control many aspects of the printing environment:
 - Use of color, Duplexing, etc.
 - How users find printers
 - Whether users can alter driver settings, etc.
- Can define simple job accounting
- Can be used in Hot Spot printing environments where a pay before you print model is required.

The MPP is used in conjunction with **Managed Printer Lists (MPL)** and **User Groups**.

Managed Printer Lists allow groupings of printers based on various attributes and allow control of features at both the group and individual printer level.

User Groups make it easy to import user information and associate users with MPP's and MPL's.

Users	Groups	Policies	Printer Lists
Charles	Admin Group	Admin Policy	All LaserJets
Bobby	Marketing Group	Standard Policy	Bldg 1 printers
Logan	Marketing Group	Standard Policy	Bldg 4 printers
Jean	R&D Group	Standard Policy	Monochrome Lasers
Kurt	R&D Group	Standard Policy	Plotters
Lorna	General & Guest Group	Default Policy	Plotters

http://hmpa-test/hmpa/mpl/edit/ Local intranet 100%

Enter MPL name (or Select from List)

HP Managed Printing Administration - Windows Internet Explorer

HP Managed Printing Administration

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- Help
- How to...
 - Edit an MPL

Edit an existing MPL

Select an MPL

Name: Boise Building 2 Upper Table View Next »

Done Local intranet 100%

Select "Auto printer discovery"

The screenshot displays the HP Managed Printing Administration web interface. The breadcrumb trail at the top reads: "Edit an existing MPL » Boise Building 2 Upper Map View » Printers". The main heading is "MPL printers". Below this, there is a text instruction: "Select one or more printers in the listbox to view/edit printer attributes in the controls below. Changes to printer attributes are not saved to the database until the [Save] button is clicked." A green arrow points from this instruction to the "Auto printer discovery" button.

The interface features three buttons: "Auto printer discovery", "Manual printer entry", and "Remove printer(s)". The "Auto printer discovery" button is selected. Below the buttons is a list of printers (14 total):

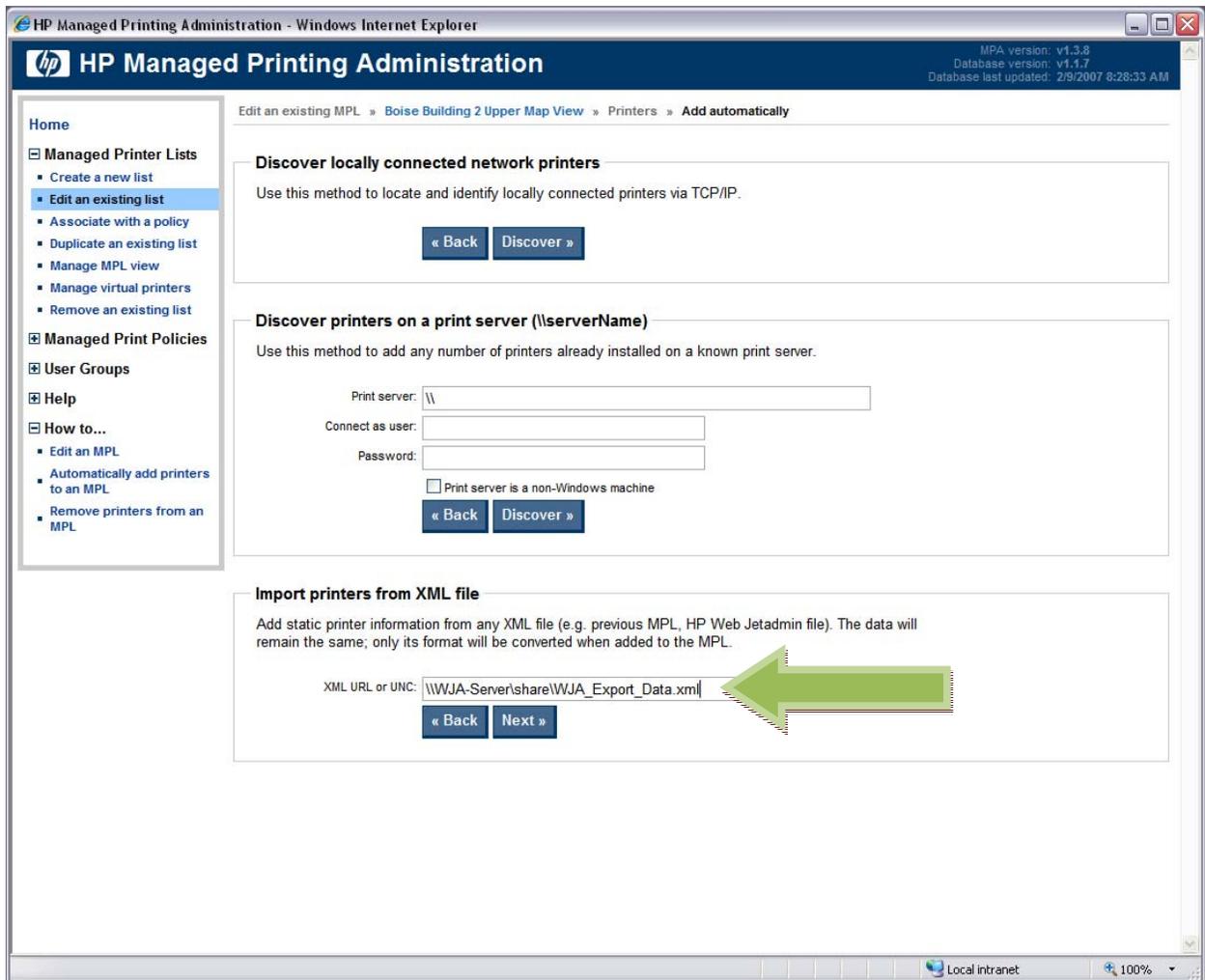
- 2Upper P5 lj 4345 MFP
- 2Upper E5 lj 4250
- 2Upper G5 LJ 9040 MFP
- 2Upper G5 CLJ 4700
- 2Upper L5 CLJ 4700
- 2Upper L5 lj 4250
- 2Upper P5 CLJ 5550
- 2Upper R5 lj4250
- 2Upper R8 CLJ 4700
- 2Upper Post N8 CLJ 5550

The configuration form below includes the following fields and options:

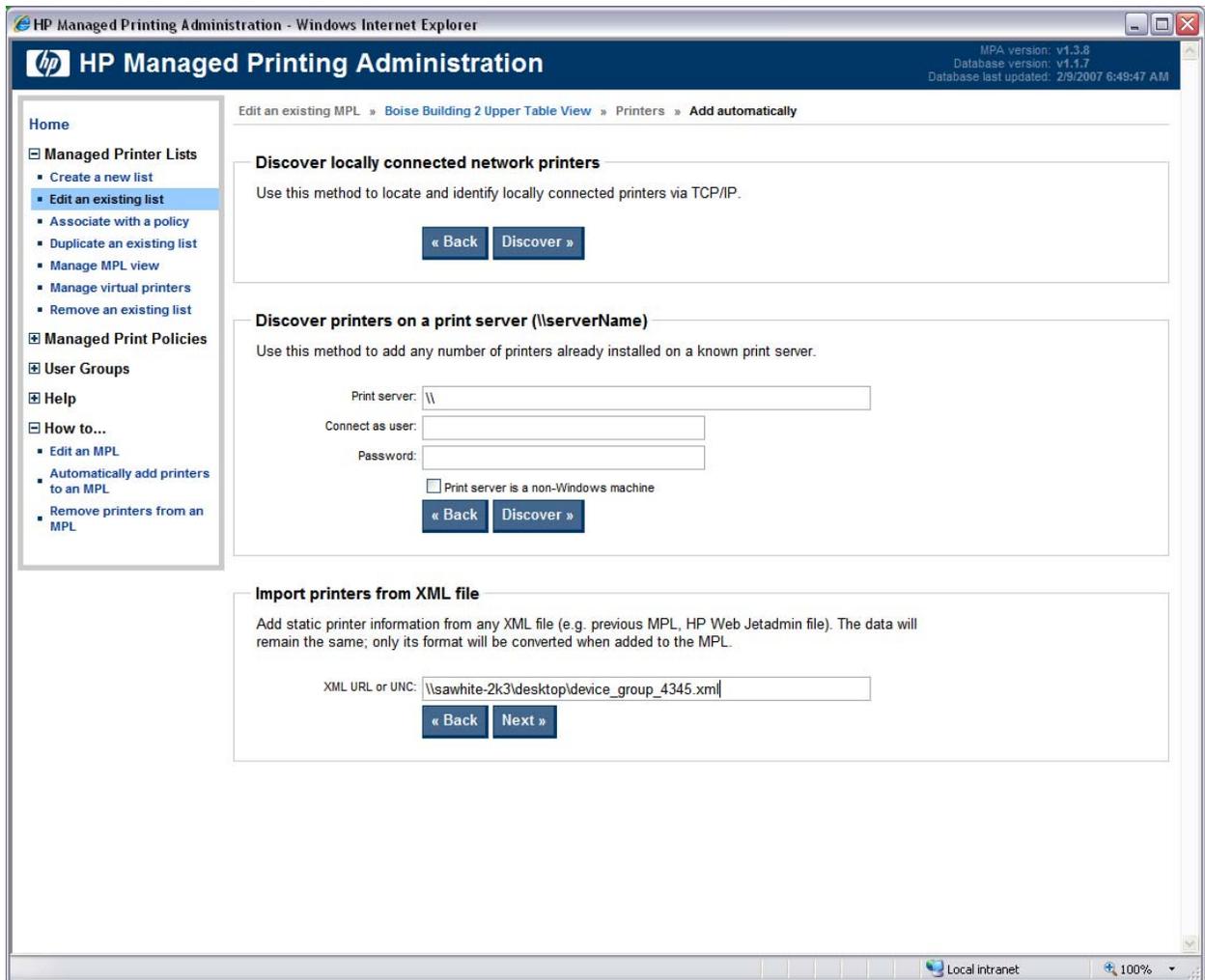
- Printer name: 2Upper P5 lj 4345 MFP
- Address: boi02027 (with a "Query device" button and a checkbox for "Replace address with resolved hostname on query")
- Model name: hp LaserJet 4345 mfp
- Physical location: (empty field)
- Comments: (empty field)
- Options: Duplex unit installed, Hard disk installed
- Printer group: (None) (with a "New printer group:" input field)
- Cost per page: (empty field)
- Options: Disable color printing, Select for job delivery, Validate when printing, Secure print path
- Configuration: Use the device configuration from the address specified (dropdown menu)
- Alternate address: (empty field) with a checkbox for "Same as target device"
- Virtual printer: Select a virtual printer (dropdown menu)

A "« Hide" button is located at the bottom left of the configuration area. The browser's status bar at the bottom shows "Local intranet" and "100%".

In the “Import printers from XML file” edit box, enter an HTTP or a UNC path to the XML content.



Once the file has been imported, the printers will be part of the printer list. Further edits can be made from the Managed Printer List screen if needed.



6.2 Managing the UPD using New UPD software tools (MPA and Active Directory Templates.)

New software available with the UPD allows new options for managing the UPD in your environment. The UPD is different than discrete drivers in that the capabilities and features of the driver can be managed and controlled on a per-user or group level. This means that the features like Use Mode settings, Color Access Control, Search Capabilities, SNP Prompts, and more can be managed down to the user level, or at a group level.

Note: Managing the print environment can save every enterprise user time and frustration in the whole driver experience. One individual acting as the UPD manager can maintain the server information which translates into time savings for every printing employee.

Currently there are two new methods to manage the UPD. Please refer to the Service Admin Guide for a more detailed description of the management capabilities of the UPD.

Managing the UPD via the Managed Printing Administration software (MPA).
(Available for free at the following location <http://www.hp.com/go/mpa>.)

The MPA software provides a simple yet detailed solution for taking advantage of the management capabilities of the UPD. Simply install the MPA software on a computer on your network and use the MPA generated XML files to modify the default behavior of the UPD.

Use the UPD Active Directory Admin Template to manage the UPD

A second way to manage the UPD capabilities is to use the Active Directory Administration Template file which will be available for the UPD in early 2007 from HP. This Administration Template file when installed into your active directory through the use of Group Policy Objects will allow for the same management control of the UPD that the MPA software provides and will fully take advantage of the existing Active Directory Users, Groups and Policies that currently exist in your environment. More information on the UPD Active Directory Admin Template will be available on HP.com as soon as it becomes available.

Other Considerations:

If you currently use Active Directory to manage all of your users and groups and policies, then the Active Directory Admin Template should be considered since you will be able to take advantage of the existing infrastructure and not have to re-create your users and groups within the MPA environment.

However, if you have a smaller more manageable group of users and are not currently using the Active Directory to manage your users and groups, then consider installing the MPA software to create policies for users and groups to control the UPD capabilities.

7.0 Deploying the UPD in your environment

7.1 Printing using standard Microsoft Print Servers

In this scenario the majority or all of your printers are shared by one or more Microsoft based print servers where the printer drivers are deployed to the client PCs through Point and Print. Printer driver management is controlled via the printers directly connected to the print servers. Microsoft print servers are discussed here. Alternate print servers solutions may not be fully compatible with the UPD and are not discussed in this document.

Strategies:

Migrate existing printer queues over to the UPD and use Point and Print to deploy the drivers to the Client PCs. Refer to Sections 9.1 and 9.2 for “Server Strategies”.

7.15 Printing using HP ProLiant Servers and Software Solutions

Customers using any of HP’s ProLiant server and software solutions may deploy the UPD in *the exact same manner* as traditional drivers would be deployed. Simply migrate existing printer queues over to the UPD with the driver configured for “Traditional Mode”. No special considerations are needed in order to be compatible with these HP solutions.

7.2 Printing using Microsoft Cluster Servers

The UPD version 3.1 (available February 2007) is supported in the Microsoft Cluster environment. Install the driver on each of the nodes prior to installing it on the virtual server. Using the Universal Print Driver will help reduce administrative costs related to print driver management by lowering the number of printer drivers that need to be installed and maintained on the Cluster server. Also, group management of the UPD through the Managed Printing Administrator software is available in the Cluster environment so you can feel secure that the behavior of the UPD can be controlled to match your company policies.

See Section 9.3 Server Solution 3

7.3 Mobile Printing - Print while visiting remote work locations

If some cases, some of your employees may visit many different sites throughout the year, and have a need to print to local printers at each site. You may choose to provide this group of employees a predefined list of printers based on location (MPLs through MPA software) or allow them to use the search capabilities built into the UPD (Dynamic mode) to search for printers at each location they visit. Please refer to the Service Administration Guide for further details on using the Managed Printing Administrator software tool, and the UPD dynamic Mode behaviors.

7.4 Printing using Novell iPrint servers

Installing with Novell iPrint servers:

The installation of the UPD on iPrint servers is EXACTLY the same as the installation of any other driver. The standard iPrint Driver / Printer management tools can be used to get the driver installed and to establish shared queues on the server.

The only difference between the UPD and discrete drivers in the iPrint environment is: there will only be a single driver on the server (for those queues assigned to the UPD).

Special Considerations:

The UPD (when combined with a future version of the iPrint client -- this future version will fix a defect in the way it makes certain DDI calls) will allow the UPD to be fully configured for the devices being addressed. This is an improvement over any other driver solution on the market because Novell is providing a special workaround for the UPD to allow it to discover the device and communicate with it directly (to get configuration information).

Even if the UPD is vended from a Novell server (iPrint or otherwise) it can still be managed via Managed Print Policies.

7.5 Printing using Novell NDPS

Installing With Novell NDPS

To install: save the UPD driver to a path on the client or server and run the NetWare Administrator (NWAdmin) on a client machine. Then follow the following steps:

1. Select a Broker in the NWAdmin UI and open its properties
2. Within the NDPS Broker UI, select the Resource Management (RMS) option
3. Click the "Add Resources..." button to add the driver
4. Select the "Windows 2000 Print Drivers" icon from the Resource Types window
5. Click the "Add..." button
6. In the Add Resources window, select the Browse button to browse to the location where the UPD was previously saved
7. Select the hpmcpdp?.inf file from the UPD driver directory
8. At this point the driver files should be copied and added to the Broker
9. The next steps would be to create your NDPS printer objects and when prompted use the UPD driver that was just recently added
10. When a client connects to the NDPS printer it will now vend down the UPD to the client and use the UPD in traditional mode

Special Considerations with NDPS:

The UPD can only be used in traditional mode in the NDPS environment. In this mode the UPD operates the same as discrete drivers.

Since Novell does not provide a way for the UPD to query the device configuration from the printer, the UPD will only make available the default settings. No trays, no output bins, or other printer specific features will be visible in the driver UI.

The latest patches for iPrint and Winspool must be applied to get the advanced printing features supported (such as N-up and Watermarks). URLs related to this information to be forthcoming.

7.6 Printing within a Microsoft Terminal Server /Citrix environment

In these environments, the UPD can be set up to connect to the network printers and made available to the Clients connecting to them. Additionally the UPD can be configured as the fallback driver to the locally installed printers on the Client PCs will be bound to the UPD during the autocreation of the printers in the Client sessions. Using the UPD in these two environments will reduce the number of hprinter drivers to install and maintain, and the MPA management software will continue to work to control the UPD behavior at the user level.

Installing With Windows Terminal Services Redirected Printers

To use the UPD for redirected printers in Microsoft Windows Terminal Services, install the UPD on the server in traditional mode using install.exe: “install /sm”. Map the UPD to the client drivers of interest in the mapping file. In Windows 2003 Terminal Services SP1, the UPD can be mapped as the fallback printer driver.

Installing With Citrix Autocreated Printers

To use the UPD for autocreated printers in Citrix environments, install the UPD on the server in traditional mode using install.exe: “install /sm”. Map the UPD to the client drivers of interest using the Citrix console tools.

Installing With Terminal Services or Citrix Network Printers

To use the UPD as a network printer installed on the server for any user to access, install the UPD on the server using Add Printer Wizard or install.exe in dynamic mode.

Managing the UPD in these environments

The UPD is managed no differently than discrete drivers on a Terminal Server or Citrix server.

End-users should not see major differences when using the UPD.

Special Considerations:

For more information see the “HP Supported Printers in Citrix Presentation Server Environments” whitepaper at <http://activeanswers.compaq.com/ActiveAnswers/cache/70262-0-0-0-121.aspx>. This whitepaper contains a decision matrix to assist in determining when to choose the Citrix UPD, the HP UPD, or the HP discrete driver. The whitepaper also discusses some of the limitations of the UPD in Citrix when used for client printers and in Terminal Services when used for redirected printers.

7.7 Printing via Direct IP method

With improvements in desktop computing power, available print management tools, and the growing concerns about reducing print management costs, some enterprise customers are starting to question, “should we move to peer-to-peer printing or continue with client-server printing?”

HP’s approach to addressing this question depends on your company’s business objectives and strategy regarding printing and imaging infrastructure. As always, there are pros and cons to both models and this whitepaper presents key points to consider when evaluating your company’s print environment.

For additional information on whether direct IP printing is right for you please reference the HP Whitepaper entitled: HP’s Position on Peer-to-peer Printing (aka Direct IP printing)

8.0 Third Party Solutions

HP printers provide customizable functionality – the HP Partner Program licenses development companies to develop and sell unique and targeted solutions to business environments. Many of these Solutions interact with printer drivers to alter the print job delivered to the printer, or deliver the job to a print server, etc. Because the functionality of a Partner Solution depends on printer drivers, the UPD influences the solution environment.

In business environments with active Partner Solutions, the installation of UPD without the directed efforts of the managing Partner will adversely affect the operation of the printing environment, and will likely cripple printing and lead to support intervention. HP does not provide such support in Partner environments, as the Partners manage this aspect of their business.

Please contact your Solution Partner in all printer driver matters, including the installation of UPD. The interactive role of the Solution Partners is critical in ensuring the proper operation of your printing environment.

Please examine the wide range of solutions available through our Solution Partners. A complete catalog (the Global Solutions Catalog) is available via <http://www.hp.com/go/gsc>.

Managed UPD Printing using a Partner Solution

Your printing environment is managed by a Solution Partner. These environments might provide you with pull printing, print and/or color accounting, special fonts, or other value-added business propositions.

Strategies:

The Solution Provider will manage any migration to UPD. The UPD dovetails with Partner Solutions, but the Solution Partner must lead the migration effort to maintain the business printing environment. When the UPD is installed without the cooperation and leadership of the solutions partner, the likely result varies, but might include printing environment downtime and/or the increase in the likelihood of a compromise in security.

9.0 Solutions

9.1 – Server Solution 1

[Use Add Printer Wizard to install the UPD onto your print servers](#)

The UPD can be installed using the Add Printer Wizard. Installing the UPD in this manner is similar to installing the HP discrete drivers in that you must select a printer port to a destination printer. Installing the UPD in this manner will cause the UPD to default to traditional mode where it will behave similarly to the discrete drivers.

1. Download and expand the UPD from HP.com to a local share on the Print Server.
2. Select Printer and Faxes from the start menu
3. Click on *Add Printer*, Click *Next*
4. Select *Local Printer* and deselect automatically detect and install my Plug and Play printer
5. Click *Next*
6. You can select an existing port, or create a new port.

7. Enter the printer port information. (The UPD will work with both the HP TCP/IP port and Standard TCP/IP port.)
8. Click Have Disk, and browse to the location where you downloaded and expanded the UPD. Click on the hpmcdpd.inf file, and then click *Open*
9. Click Next to select the HP Universal Printing PS, PCL5, or PCL6
- 10 Enter a Printer name that describes the printer you are installing. By default Microsoft uses the printer driver name to pre populate the printer name field. We recommend you replace the default name with one that is more descriptive of the printer being installed.
11. Complete the procedure to install the printer using the Universal Print Driver.

9.2 Server Solution 2

Install the UPD on a print server using the Install.exe

Use the Install.exe method of installing the UPD when you need to do any of the following:

- *Create a custom installation of the UPD by modifying the default settings*
- *Migrate existing queues from the discrete driver to the UPD driver*
- *Install the UPD in Dynamic Mode*
- *Use SMS, or scripts to push the UPD to client PCs.*
- *Change the location of where the UPD looks for the MPA software*

Type Install /? at the command prompt in the folder where the UPD was downloaded to get a complete list of the installation and configuration options. Here are a few typical examples of how to use the Install.exe utility.

Install /sm192.168.5.2 /n"HP Color Laser 4700 upd pcl5" /dst

Install - Install executable

/sm192.168.5.2 -- Creates a traditional printer queue on the computer with an IP address of 192.168.5.2

/n"" -- Names the print queue HP Color Laser 4700 upd pcl5

/dst -- Disables the Services tab from the UPD for this printer.

Install /pqmigrate"HP Color Laserjet 4345 pcl6"

/pqmigrate -- this switch will tell the UPD to install on the PC and migrate every printer queue using the specific driver listed in quotes. Note: the name in quotes must match the exact name of the printer driver being used. This is a typical command that is used to migrate queues on a print server, or client machine.

Note: Depending on the currently installed drivers, the printer settings for each of the queues may be reset to default settings. This is due to the dev mode structure of the UPD. The list below shows what you should expect depending on the currently installed driver.

Wizard Driver migrated to UPD	Settings reset to default.
MS in-Box drivers migrated to UPD	Settings reset to default.
Traditional driver migrated to UPD	Settings will be retained

Install /h /dm /ru /policy"printer mgmt"

/h -- this switch hides the install dialog

/dm – installs the UPD in Dynamic mode

/ru -- restricted mode prevents a client from searching for Printers, and only allows them to see printerLists created by the MPA utility.

/policy"printer mgmt" Tells the UPD to look for a computer named printer mgmt for the MPA software utility. (Remember, by default the UPD will only search for a computer named managed-print for the MPA software.)

9.2 – Server Solution 3

Install the UPD in a Windows Cluster environment

Installing the UPD in a cluster environment is similar to installing any other discrete driver with the exception that the UPD must be installed on each node in traditional mode prior to installing it on the virtual server. Please follow the steps below to install the UPD in your Cluster environment:

1. Download and expand the UPD driver to each of the nodes that will make up the virtual server.
2. Install the UPD on each node using either Solution 1, (Add Printer Wizard, or solution 2 (Install.exe). For solution 2, consider using the following command when installing the UPD on each of the nodes that will make up the cluster.

Install /smlpt1:

This command installs the UPD in Traditional mode, and binds the printer to the Parallel port. You can delete this printer after the UPD has been installed if you chose to.

3. Once the UPD has been installed on each of the nodes, you can now install the UPD on the virtual server using either Solution 1 or Solution 2.
You can also migrate existing queues on the virtual server using solution 2 as long as the UPD was installed on each of the nodes first.