hp driver preconfiguration

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Introduction

This *HP Driver Preconfiguration Support Guide* describes HP driver preconfiguration, the tools to use it, and the printing environments in which it can be employed. Three distinct tools for using HP Driver Configuration are described in detail:

● The HP Driver Configuration Editor

● The HP Web JetAdmin Driver Configuration Plugin

The HP Customization Utility/Silent Installer

HP driver preconfiguration is a software architecture and set of tools that permits HP software to be customized and distributed in managed corporate printing environments. Using HP driver preconfiguration, information technology (IT) administrators in corporate and enterprise environments can preconfigure the printing and device defaults for HP printer drivers before installing the drivers in the network environment.

For instance, suppose a company has purchased several HP Color LaserJet 5500 printers that are to be shared among several workgroups. To keep printing costs to a minimum, management wants all of the print queues to print on both sides of the paper (duplex) by default. To save costs further, they wish to restrict the ability of certain groups to print in color, thereby minimizing toner consumption. Several different printer servers are in use, each of which has one or more queues to the new devices. Some users can print directly to the new printers over the network, but IT wants to apply the same driver configuration to those print queues.

In the past, the printers in such a case would have to be installed on each print server and then manually configured to the required settings. The printers would also have to be manually configured in accordance with the required specifications. By taking advantage of HP's preconfiguration technology, however, this process can be greatly simplified. The following examples show how the various tools can be used to support different corporate environments:

● If the company uses HP Web JetAdmin, then they could use its queue management capability to preconfigure and create the queue on each of the desired Windows printer servers in one step. Furthermore, the configuration can be saved and used for later deployments of the same product (regardless of which specific driver will be used for that product). Each print server can then vend properly configured drivers to all Windows clients.

● If the company has an internally developed printer and driver deployment process, HP driver preconfiguration can be used to define the proper driver settings before the driver enters that process. Once the driver is configured, every subsequent deployment of the driver is installed with the same settings.

● If the company uses Novell or the HP Printer Server Appliance, HP driver preconfiguration can be used before drivers are loaded to the servers, thereby ensuring that clients get properly configured drivers when they connect to the shared print queues.

● If the company wants a silent executable file that users can run to create printers on their workstations, the HP Installer Customization Utility can be used to create a silent, executable package that contains preconfigured drivers.

● If the company has Windows print servers and/or workstations, then any of the three tools can be used to preconfigure the drivers that are installed. Both Web JetAdmin and the HP Installer will handle both the configuration and the installation of the printers. The HP Driver Configuration Editor will only modify the driver such that when it is installed (through any method) it will reflect the specified settings.

HP driver preconfiguration overview

The process of configuring drivers and other software occurs prior to installation. The software can be configured once by IT administrators and installed on any number of server or client systems. The driver configuration information is stored in a file that is separate from the 'standard' driver files (dynamic link libraries [DLLs] for rendering and presenting a user interface), but that is included in the driver package and referenced in the driver INF. The configuration process involves reading the default information from this file and allowing an administrator to select new default settings for existing features. The file is then saved and used when the associated driver is installed.

Network administrators use the HP driver preconfiguration solution to preconfigure a printer driver before deploying and installation it in an operating environment. It is most beneficial when configuring printer drivers for multiple workstations and printers that share the same configuration. Two classes of features can be configured: printer accessories and driver feature settings. The driver is configured to match the printer hardware so that access to all of the printer accessories through the driver is enabled appropriately (for example, for duplexing units and additional input trays and output bins). Most driver feature settings can also be configured.

Basically, the preconfiguration process consists of three steps:

● Driver acquisition

● Driver preconfiguration

● Driver installation and deployment

The steps can be accomplished in different ways, depending on the tool being used to define the configuration.

Driver acquisition

Software acquisition takes place in one of several ways:

● By getting drivers-only from the CDROM shipped with the printer

● By downloading drivers from the HP Web site

● By using drivers that are already in the organization (e.g. using a driver that has already been certified by internal testing procedures for use within the organization).

Driver preconfiguration

The process of configuring drivers and other software occurs prior to installation. This allows the driver to be configured once and installed on any number of server or client systems.

File format

The driver configuration information is stored in a small configuration file that is separate from the 'standard' driver files (dynamic link libraries [DLLs] for rendering and presenting a user interface [UI]). Although it is maintained as a separate file, it is included in the driver package and referenced in the driver .INF file. The configuration process involves reading the default information from this file and allowing an administrator to select new default settings for existing features. The file is then saved and used when the associated driver is installed.

The configuration file is a text file, but the text is in XML format. The file contains a list of features and their available options on a product-specific basis. The file structure is quite specific, and one purpose of HP driver preconfiguration is to maintain the specific structure. HP driver preconfiguration maintains consistency in the configuration file through dynamic constraint checking. Before setting a value, the utility determines whether the proposed setting is valid within the pre-established constraints that were placed upon the device at the factory. The utility also ensures consistency by preserving the correct structure of the configuration file. This structure is assumed by the device that uses the configuration information, and must therefore be strictly maintained.

The configuration file has an extension of .CFG. It is typically compressed in the driver package that is supplied with the driver, so it is not generally editable except with a tool specifically suited to the task (see tools below for a description of the editing options provided by HP). When one of the HP tools is used to preconfigure driver settings, the contents of the .CFG file are modified to reflect the settings, which become the default settings for any printer that uses the preconfigured driver.

Lockable features

While the feature set that is configurable is defined by the developers of each individual product, the general rule is that all driver features are supported. This means that both the device settings (such as **Optional Paper Sources and Duplex Unit**) and the printing preferences (such as default **Paper Source** and default **Output Bin**) are customizable prior to installation. In addition, a number of features that can be locked to a particular state if an IT administrator wants greater control over the way compatible devices are used. The 'lockable' settings are:

- **Print on Both Sides (Duplex)**
- **Print in Grayscale**
- **Media Type**
- **Paper Source**
- **Output Bin**

To ensure that an invalid configuration is not applied to the driver when it is installed, the .CFG file defines the valid relationships between specific settings included in the file. For example, the .CFG file prohibits having the media type set to **Transparency** when **Print on Both Sides** is selected. The prohibition ensures that when the driver is finally installed, it can successfully integrate the settings into its internal settings format.

Install time

When a preconfigured driver is installed, the modified .CFG file is accessed and the settings are applied to the driver's own internal settings format. When installation is complete, the printer's default settings reflect the settings selected in the CFG file. From this point forward, the printer and driver behave like any printer, in terms of settings management. Users can modify the printer's settings through the Printers folder and modify jobs within applications. By simply creating two differently configured driver packages and installing them in turn, administrators can install multiple printers using differently configured instances of the same driver.

Driver installation and deployment

The process of deploying and installing printer software varies widely across organizations. While some companies have tightly controlled server and client software configurations, others have a highly informal distribution network of software that is under no centralized controlling IT body. For HP driver preconfiguration to be usable within a wide range of these computing environments, it must be compatible with as many of the standard deployment and installation methods used by corporate and enterprise customers as possible. In a practical sense, this means any installation process that uses the system application program interfaces (APIs) defined by Microsoft to install drivers and printers.

Product/driver coverage

Because driver preconfiguration is a new feature for HP printers, it is available for new mid-range and high-end HP LaserJet products, and for some Business InkJet products, beginning with the Fall 2002 product introductions.

This includes the following printers:

- HP LaserJet 4200
- HP LaserJet 4300
- HP LaserJet 5500
- HP Business InkJet 2280
- HP Business InkJet 3000

In addition, drivers for several LaserJet products currently being shipped have been updated to include support for preconfiguration. These products include:

- HP LaserJet 4100
- HP LaserJet 4600
- HP LaserJet 8150
- HP LaserJet 9000

For the products that are supported, the following table shows drivers and operating systems that support DMC.

Table 1 HP driver preconfiguration support

Driver	Windows 95	Windows 98	Windows Me	Windows NT 4.0	Windows 2000	Windows XP
HP traditional PCL 5c/e driver	Yes	Yes	Yes	Yes	Yes	Yes
HP traditional PCL 6 driver	Yes	Yes	Yes	Yes	Yes	Yes
HP PCL 5c/e unidriver	N/A	N/A	N/A	N/A	Yes	Yes
HP PCL 6 unidriver	N/A	N/A	N/A	N/A	Yes	Yes
HP PS unidriver	No	No	No	No	Yes	Yes

Environmental support

HP has gone to great lengths to ensure that the most common corporate and enterprise printing environments are supported by driver configuration. This document provides detailed information about specific workflow requirements for these environments, as well as limitations that they might impose on the preconfiguration solution.

The descriptions of each printing environment that follow assume that the drivers to be used have been preconfigured before they are installed. For Windows servers, some of the preconfiguration tools can handle the preconfiguration and installation steps at the same time. For all other server platforms, the driver must be preconfigured with the standalone version of the HP driver preconfiguration software, the HP Driver Configuration Editor.

Direct installation – workstation/Windows print server

This is the common case in which a printer is being created on either a Windows workstation or print server using most any installation method (such as Add Printer Wizard, HP Installer, HP Web JetAdmin, and other "homegrown" installation applications). As long as the driver for the printer being installed has been preconfigured using one of the tools described in this document, and the installation method follows the standard Microsoft process for printer creation, the printer will reflect the defined settings when installation is complete.

Windows Point and Print

The term "true connect" refers to any Windows Point and Print environment in which the server and connecting clients share printer setting information. Whenever the server is Windows NT 4.0, Windows 2000, or Windows XP, and the clients are Windows NT 4.0, Windows 2000, or Windows XP, settings are shared.

The term "false connect" refers to Windows Point and Print environments in which the server and connecting clients do *not* share printer setting information. Windows 95, Windows 98, and Windows Me clients connecting to any Windows NT 4.0, Windows 2000, or Windows XP server operate in this mode.

True connect

In true-connect environments, when the preconfigured server-side driver is installed, the settings are stored so that all connecting clients receive them when they connect. The only limitation to this behavior is for Windows NT 4.0-to-Windows NT 4.0 connections, where Point and Print does not provide connecting clients with the Printing Preferences settings. Otherwise, all server-side settings are vended to the clients.

False connect

In false-connect environments, the client receives no printer configuration information from the server, aside from the port through which to print. When both the server side and client side drivers support preconfiguration, the client driver will call back to the server and ask for the preconfigured settings of the server side driver for the shared printer. Only Windows 95, Windows 98, and Windows Me drivers have this ability to ask the server directly for configuration information, and it is only used in false-connect Point and Print scenarios.

If the client is unable to communicate with the server, then the configuration that was defined as part of the preconfigured Windows 95, Windows 98, or Windows Me driver is used instead.

Windows Point and Print configuration scenarios

The following table shows various server-client configuration scenarios for true-connect and false-connect Windows Point and Print environments.

Table 2 Point and Print configuration scenarios

Server	Client	Configure Printer Properties	Configure Printing Preferences
Windows NT 4.0	Windows 95, 98, and Me	Yes	Yes
	Windows NT 4.0	No	No
	Windows 2K	No	No
Windows 2000	Windows 95, 98, and Me	Yes	Yes
	Windows NT 4.0	No	No
	Windows 2000	No	Yes
	Windows XP?	No	Yes
WinXP	Windows 95, 98, and Me	Yes	Yes
	Windows NT 4.0	No	No
	Windows 2000	No	Yes
	Windows XP	No	Yes

Novell Point and Print

There are three main categories for preconfiguration in Novell environments:

- NetWare Directory Services (NDS)
- ZenWorks
- Novell Distributed Print Services (NDPS)

In the case of NDS and ZenWorks, at most one preconfiguration definition is available per product (that is, one preconfiguration definition for each HP printer model). This is because Novell stores *all* printer drivers to be vended in the same physical directory on the server. Driver preconfiguration uses the same file name for all drivers for a given product to store the configuration information, thus making the file both portable and consistent across all drivers for a particular product.

In the case of NDPS printer objects, multiple instances of the same driver can be stored on the server, each with its own preconfiguration data. These resources can then be associated with the desired NDPS print queues and vended to printing clients accordingly. If there is a need to have multiple configurations for the same driver model (for instance, the HP LaserJet 4200 PCL6 driver for Windows 2000) on the server, the Novell Resource Manager allows each new instance of the driver to be used with a different name. See Novell documentation for step by step instructions for adding drivers in this manner.

Regardless of the queue type, all Windows client platforms are supported in terms of using the configurations that are defined on the server.

HP Printer Server Appliance Point and Print

The HP Print Server Appliance (or PSA) supports preconfigured drivers to a limited degree. PSA is restricted to cases in which a single instance of a driver and its associated setting information are on the server at any given point in time, which means that only a single preconfiguration can be stored for each driver.

Windows Terminal Server

Driver preconfiguration is supported in the Windows Terminal Server environment for both the Windows NT 4.0 and Windows 2000 versions of the product. When a preconfigured driver is installed on the server, all terminal clients receive that configuration when they connect to the server. The only limitation in this scenario is that as printers are being added, the server administrator must be working on the server directly, not working from a terminal session. This limitation is related to the Distributed Component Object Model (DCOM) infrastructure in the Terminal Server environment.

Windows Terminal Server (Citrix Metaframe Printer Auto-Create)

Citrix Metaframe provides a feature whereby the workstation on which the terminal clients for a server are running can install a local printer and access the printer within the context of a terminal session. This allows terminal users to print to locally defined printers even when they are working from within a terminal session. The feature is called Printer Auto-Create because the Citrix environment creates a server side printer for the printers that are dynamically installed on the terminal workstation (that is, when the user logs on to the server during a terminal session). The client workstation and server must both have the same driver installed for the client-side printer.

If the driver installed on the client workstation is preconfigured, then the preconfigured settings will be applied to the server-side printer when the terminal session is started.

Note   This functionality is available only on Metaframe 1.8 and later versions that run in a Windows 2000 Terminal Server environment.

Windows Cluster Server

Driver preconfiguration is not supported in Windows Cluster Server environment.

Tools

The configuration process for driver preconfiguration is supported through three distinct tools. All three are designed with the same basic UI controls for interacting with the .CFG file, but are packaged differently, either to support established printer installation workflows or to leave the deployment and installation of the driver entirely up to the user.These tools are:

● The HP Driver Configuration Editor, a stand-alone tool for Windows operating system environments

● The HP Web JetAdmin Driver Configuration Plugin, a Web-based tool

● The HP Customization Utility/Silent Installer

Note   It is highly recommended that .CFG files be modified *only* with the editing tools provided. Manual editing of the XML could easily result in both invalid XML and/or incompatible settings within the file.

HP Driver Configuration Editor

Description

The HP Driver Configuration Editor is a small Windows application that allows the user to open the .CFG file associated with a particular driver and make modifications that are applied when that driver is installed on the target computer. It is used in the way any ordinary window application is used.

This tool does not handle any part of the deployment or installation of the driver. Rather, the .CFG file is modified and saved back to the same driver directory in which it was opened. It is intended for use in environments where there is an established process for deploying drivers or where the server platform is not Windows-based. To support any Novell or PSA Point and Print environments, this is the preconfiguration tool of choice.

Access/installation

The HP Driver Configuration Editor can be downloaded from hp.com at the following URL

http://www.hp.com

Once it has been downloaded, the compressed package can be expanded into a local or network directory. No formal installation process is required – as soon as the package has been uncompressed, it is ready to be run. The application can be run by double-clicking **hpbcfgap.exe** in the destination directory.

This application shares functional features and user interface with the Customization Utility and Web-based versions of the HP driver preconfiguration.

Procedure

In order to use the HP Driver Configuration Editor, the driver(s) to be configured must be in their standard .INF-file driver packages that are obtained from HP (either from the HP Web site or from the product in-box CDROM). The driver(s) must be stored in a location for which the user of the tool has write-access. The driver must also support driver preconfiguration. If the tool is used to browse to a driver directory and there is no .CFG file, the driver cannot be preconfigured.

1   Run HPBCFGAP.EXE from the download directory

To run the HP Driver Configuration Editor, double-click on **hpbcfgap.exe.**

2 The **Information** dialog box appears, as shown in Figure 1.

**Figure 1   Information dialog box**
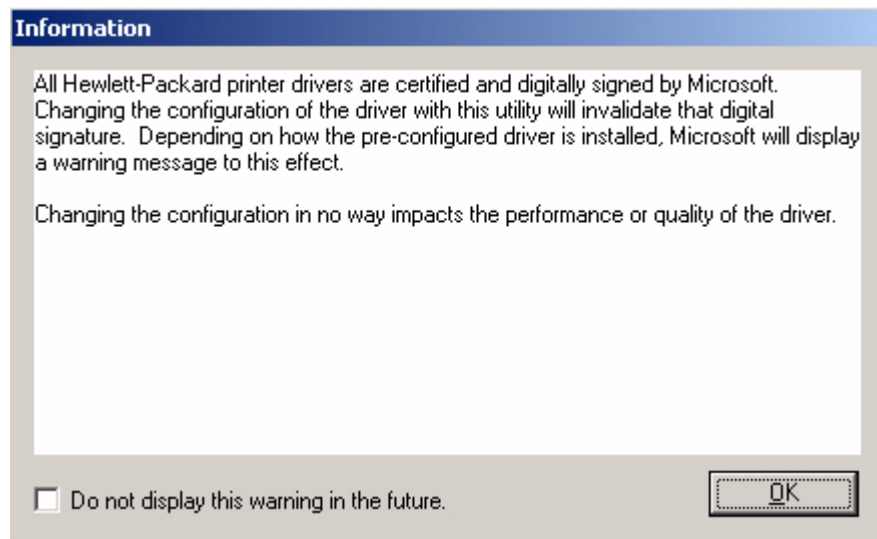
This dialog box warns users that, depending on how the driver is installed, a Windows Hardware Quality Labs (WHQL) Digital Signature Warning will appear.

Because the .CFG file that is shipped with the drivers is part of the ,INF-file package (and referenced in the .INF file as a dependent file of the driver), modifying this file invalidates the digital signature that Microsoft provides when the driver is WHQL-certified.

Figure 2 shows the Microsoft warning dialog that appears at install time.

Figure 2   Digital Signature Not Found dialog box
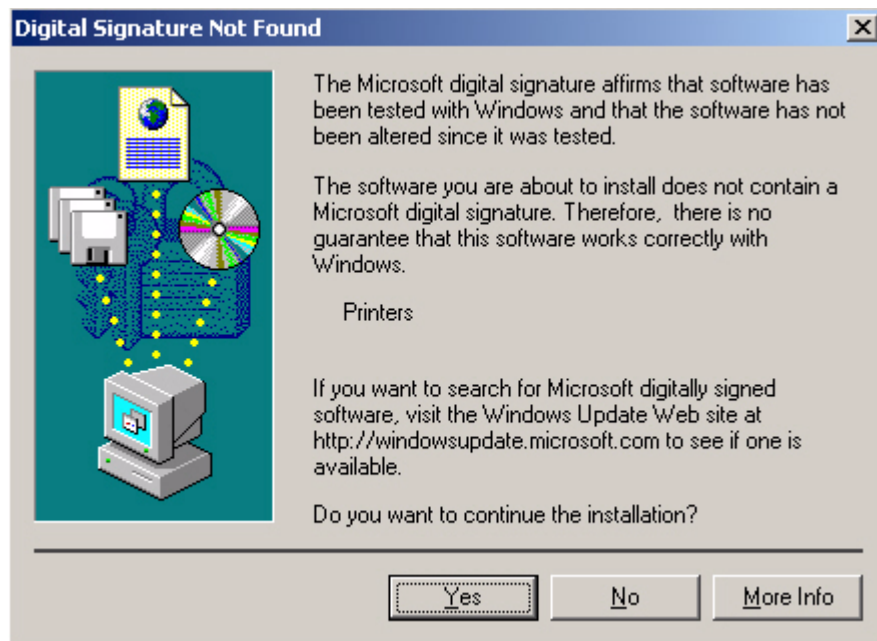
This dialog will be displayed only on Windows 2000, Windows XP and Windows .NET Server, and only when drivers are being installed directly on the machine (*not* when they are being installed as a Point and Print client).

3   Modify the configuration to meet your requirements.

The UI consists of two tabs: **Device Settings** and **Printing Preferences**.

Device Settings tab

The settings in the **Device Settings** tab are related to the installed hardware on the device. Certain features on the **Printing Preferences** tab rely on the installation of various hardware accessories in order to be used.

Bundle Selection

The **Bundle Selection** field lists the various hardware bundles available for the product and, when changed, will modify the individual settings to reflect the bundle contents.

Figure 3   Device Settings tab
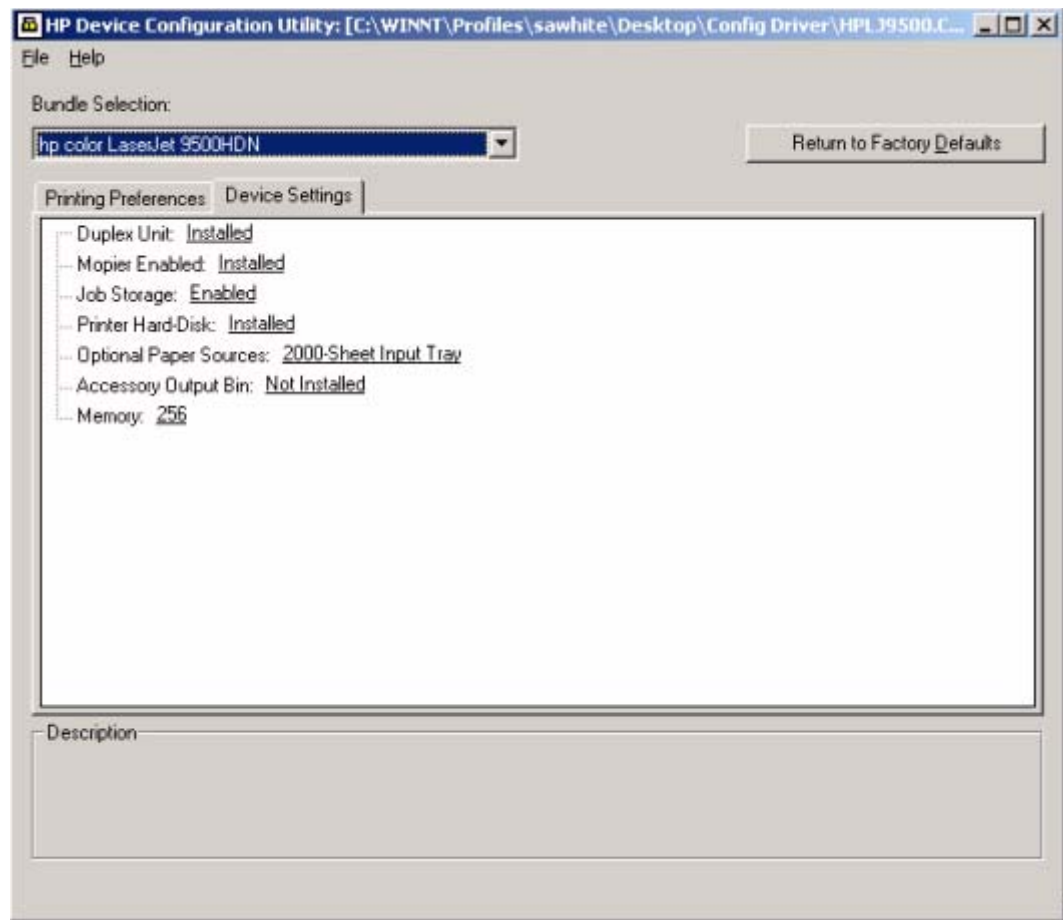
Printing Preferences tab

Settings in the **Printing Preferences** tab are related to the actual formatting of documents as they are printed. By modifying the feature settings, the default behavior of the driver is altered. For example, if **Media Type** is changed to **Letterhead**, then every job printed will *default* to being printed on Letterhead paper. The user can modify this setting both on a per-document or per-printer basis.

Figure 4   Printing Preferences tab
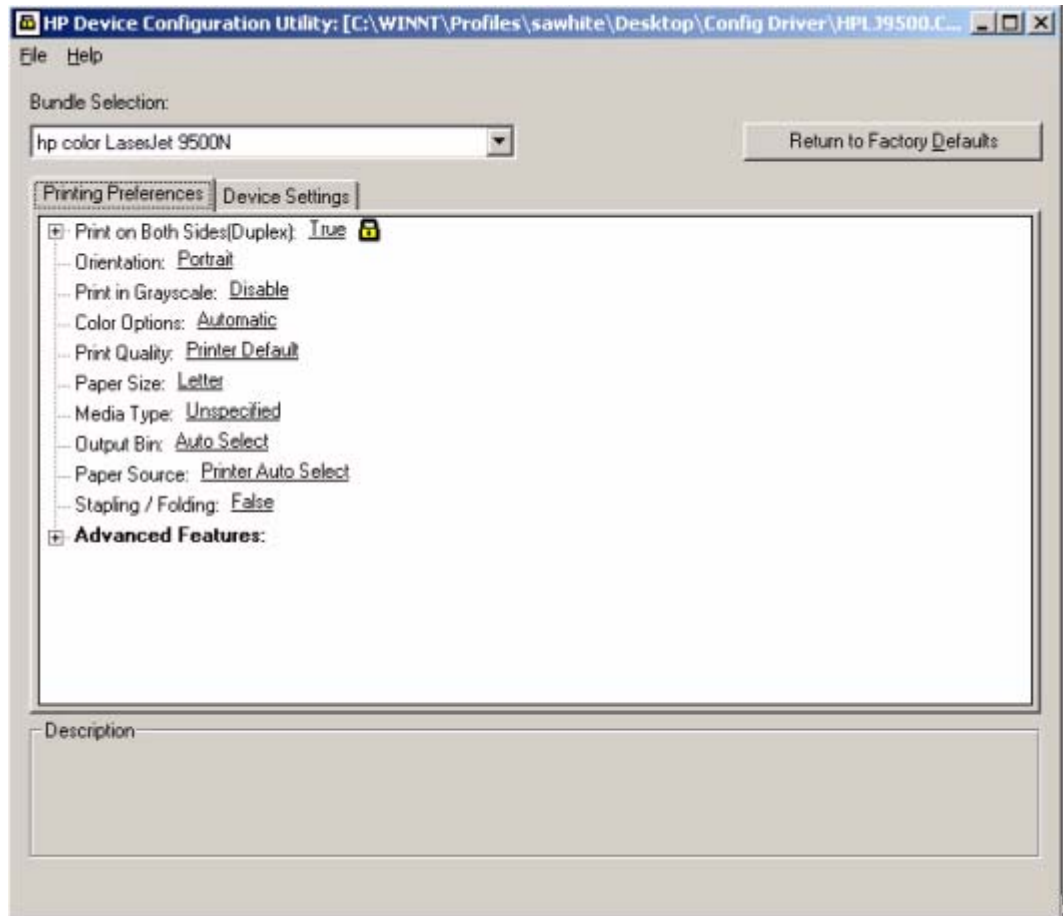
Feature locking

HP driver preconfiguration supports the ability to lock five settings:

- Print on Both Sides (Duplex)
- Print in Grayscale
- Media Type
- Output Bin
- Paper Source

When a feature is locked, the selected default option is the only option that will be available to users. Generally, the feature will simply be disabled in the driver UI once it has been installed. In the figure shown above, the **Print on Both Sides (Duplex)** setting has been locked to **True**. A small icon showing a padlock appears next to the setting in the UI). As a result, the user will be unable to print from this driver on only one side of the page. If the driver is installed on a server, clients connecting to that printer will also be unable to print on only one side of the page.

Constraints

The .CFG file is encoded with all of the same constraints that the drivers enforce. As a result, if the user of the HP Driver Configuration Editor attempts to set features to an invalid combination, a warning dialog appears, and the feature change that triggered the warning is returned to its original state. For example, if the **Media Type** option is set to **Transparency** when **Print on Both Sides (Duplex)** is set to **True**, an **Invalid Selection** dialog box appears, as shown in Figure 5.

Figure 5   Invalid Selection dialog box
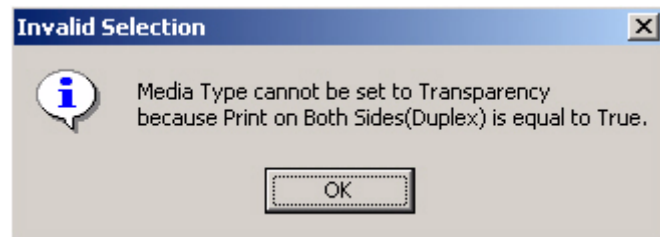
4   Save the file back to the driver directory.

Note   The file should be saved back to the same driver directory in which it was opened.

Once the file is saved, the driver package is ready to be installed with the new settings.

5   Install the driver and create a printer using any preferred method.

Driver preconfiguration is compatible with any installation method that relies on the published Microsoft procedures for installing a printer. See the Microsoft Developer Network documentation for details on the published methods. All commercially available installation methods, including driver vending from Novell and Samba servers, adhere to these guidelines. For more information, see the Microsoft Developer Network Web site at:

http://msdn.microsoft.com/default.asp

6   Exit the HP Driver Configuration Editor.

7   Install the driver on a server or workstation.

At this point the driver can be installed on a Windows workstation, or a Point and Print server (Windows, Novell, or HP Printer Server Appliance). All queues using the driver will default to the settings that were selected within the configuration editor, and any features that were set to **Locked** will be locked for all users, regardless of how they access the driver (whether through the server or client).

HP Web JetAdmin Driver Configuration Plugin

Description

HP Web JetAdmin provides a queue creation application that allows printers to be created on any Windows NT 4.0, Windows 2000, or Windows XP server or workstation. The HP Web JetAdmin Driver Configuration Plugin adds a number of screens to the existing queue creation workflow to allow the drivers being installed for the queues to be customized as part of the process.

The plugin also allows IT administrators to manage the configurations that they create for specific queues by allowing them to be saved (with a name) and used in subsequent installations.

The HP Driver Configuration Plugin uses ActiveX to deliver some of its functionality (in a fully signed and certified ActiveX control). This requires that the client browser security be set to accept third party ActiveX content.

The plugin is also limited to Internet Explorer browsers. Netscape is not supported.

Access/installation

The plugin is available as part of the WJA Product Update -> Install wizard dialog. Once you select the HP Driver Configuration Plugin and choose to install it, Web JetAdmin takes care of the rest.

To use the plugin, you must follow the Web JetAdmin queue-creation workflow and be installing a driver that can be preconfigured.

Procedure

1 Access Web JetAdmin Queue Creation.

Follow the Web JetAdmin queue-creation workflow through the driver selection pages (see Figure 6). When driver selection is complete, use the **Skip** button to continue. If more than one driver is selected and they support preconfiguration, all of them will be configured the same way through the following process.

Figure 6   **Figure 6. Driver selection**
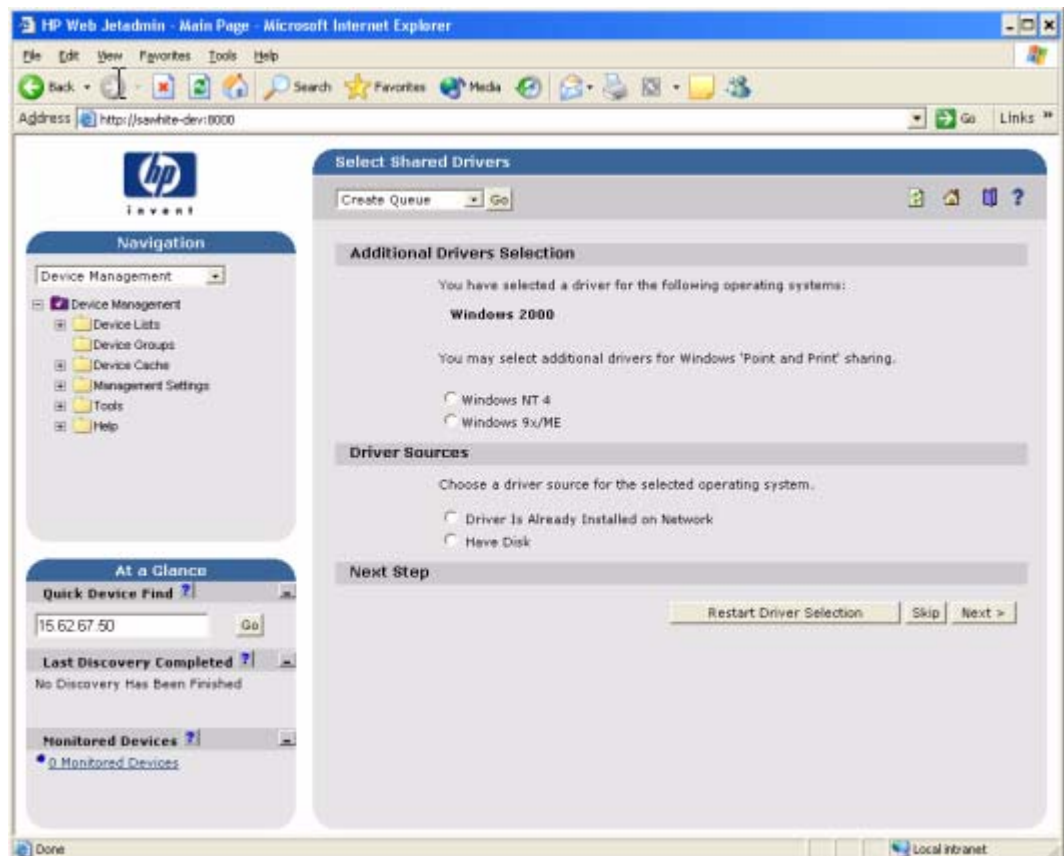
At this point, the Driver Configuration Plugin examines the selected drivers to determine whether they can be preconfigured. If they cannot, then the Web JetAdmin queue creation workflow continues as if the Driver Configuration Plugin was not installed.

Driver Configuration – configuration options

If the drivers can be preconfigured, then the Driver Configuration Plugin is launched. The first page (shown in Figure 7) lists the selected drivers that are configurable. The user can then decide whether to preconfigure the drivers.

Figure 7   Configurable drivers
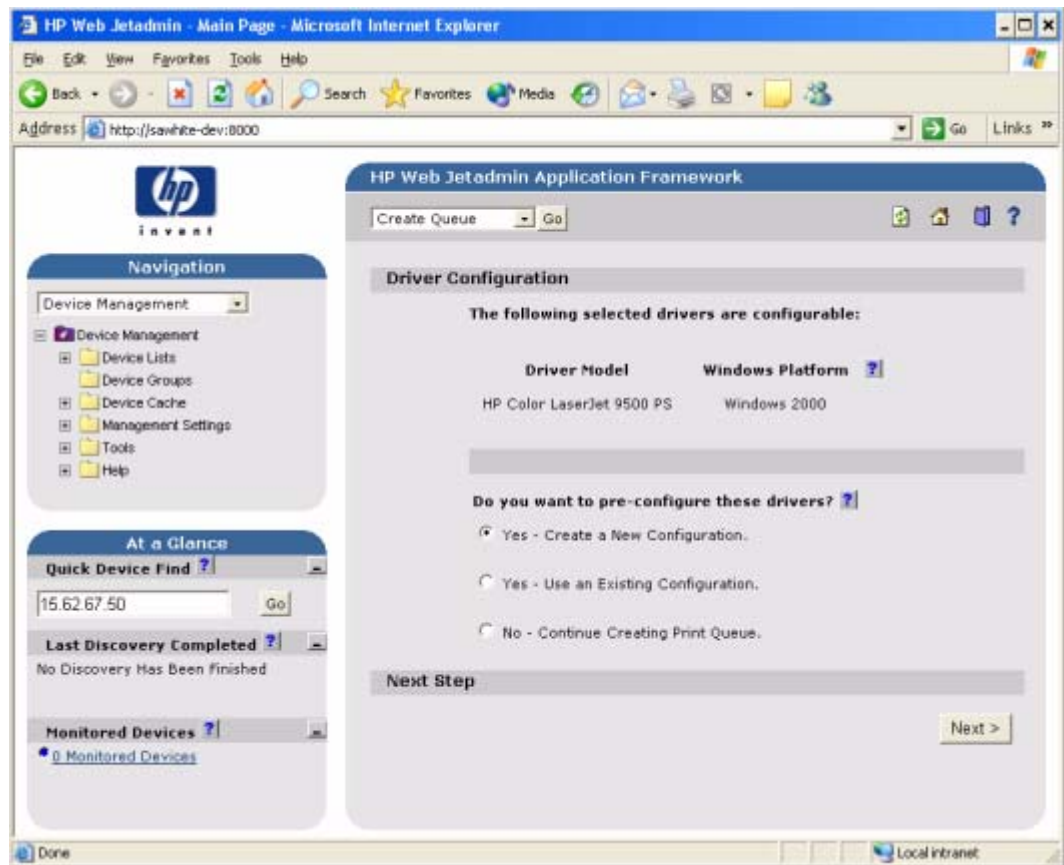
2   Make the configuration selection.

This page displays the selected drivers that support preconfiguration. Depending on the drivers selected for installation, some may not support preconfiguration (specifically, Windows NT 4.0 and Windows 95, Windows 98, and Windows Me Postscript drivers).

The user will be presented with either two or three configuration options. If the Driver Configuration Plugin has been used for the same product previously, and the configuration created as part of that workflow was saved, then the user will have the following options:

- **Yes - Create a New Configuration**
- **Yes - Use an Existing Configuration**
- **No - Continue Creating Print Queue** (skip driver configuration).

3   If existing configurations are available for the product being installed and the user selects the **Yes - Use an Existing Configuration** setting, the dialog box shown in Figure 8 appears.

When the user selects an existing configuration, the appropriate configuration file will is loaded into the Configuration Editor pages (as shown in Figure 9 and Figure 10), just as a new configuration would be. This allows changes to be made to that configuration, but does not require them.

When the existing configuration has been selected, the configuration page appears, and the remainder of the flow is the same as when a new configuration is being created.
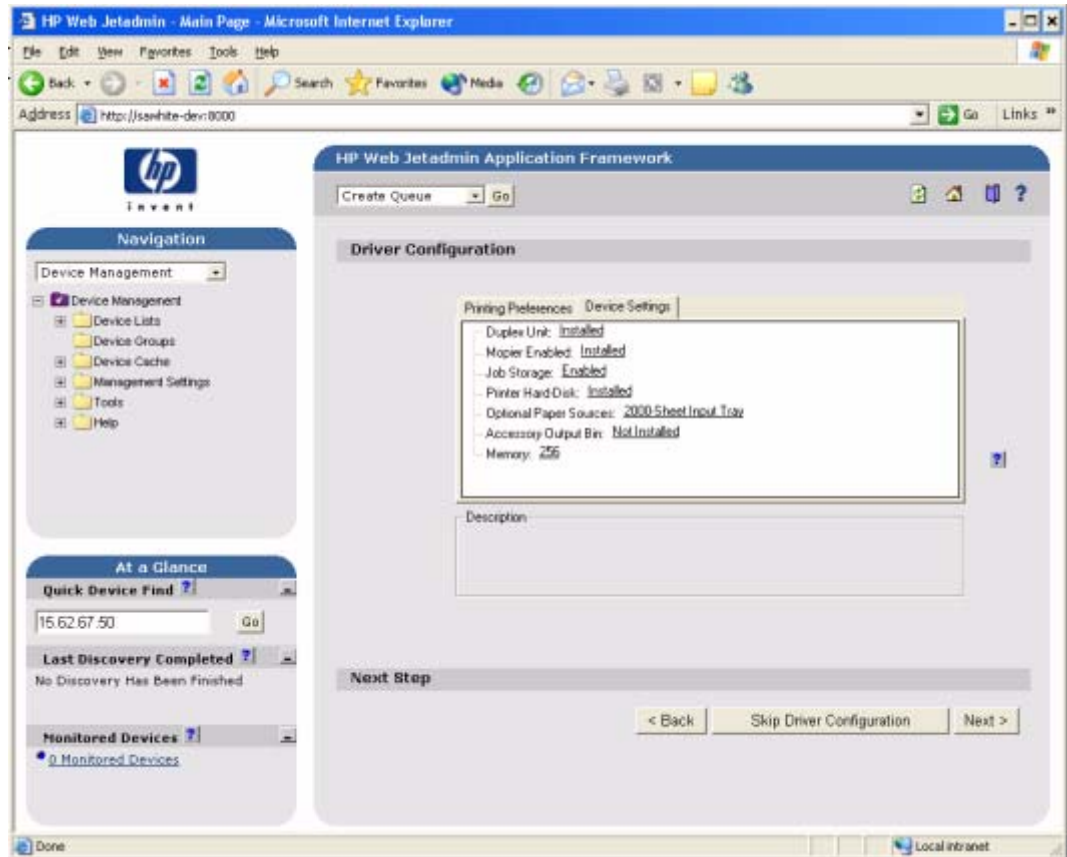
Figure 8   Driver Configuration - existing configurations
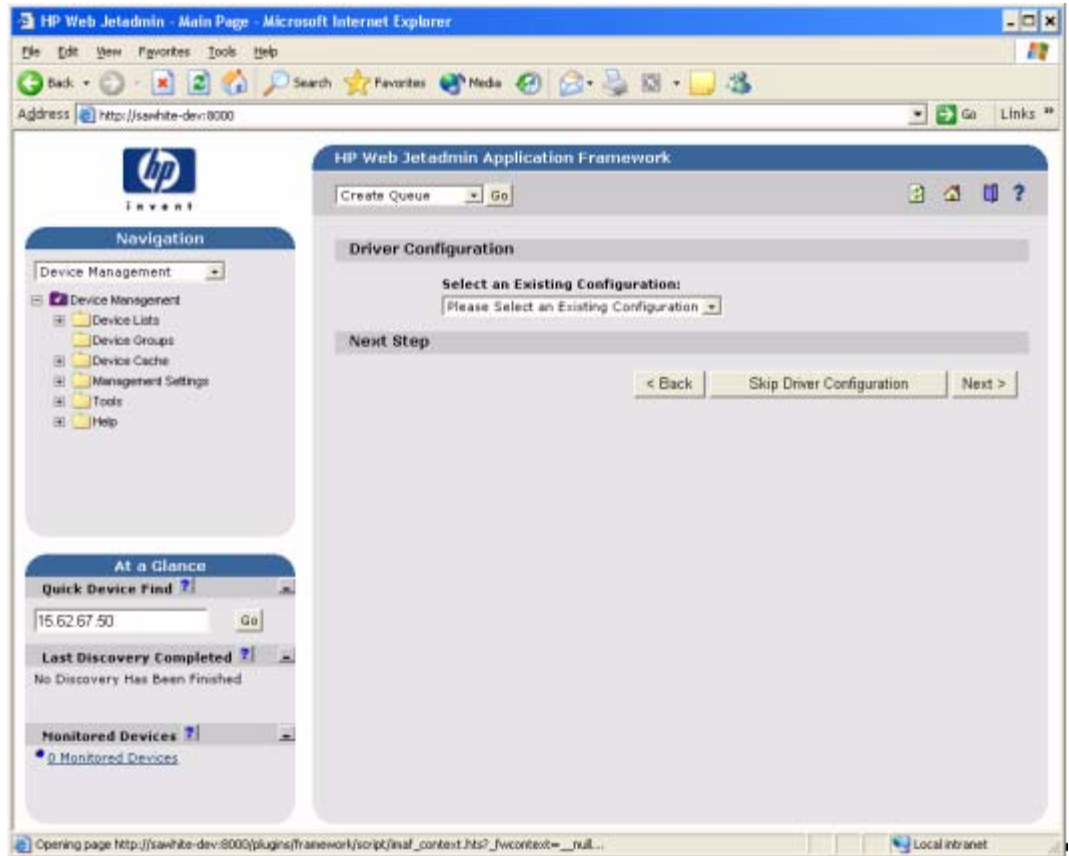
4   If the user selects **Yes - Create a New Configuration,** the **Driver Configuration** dialog box appears.

The onscreen user interface consists of two separate tabs: **Device Settings** (see Figure 9) and **Printing Preferences** (see Figure 10).

Figure 9   Driver Configuration – Device Settings

Settings on the **Device Settings** tab are related to the installed hardware on the device. Certain features on the **Printing Preferences** tab rely on various hardware accessories that must be installed in order to be used.

Figure 10   Driver Configuration – Printing Preferences
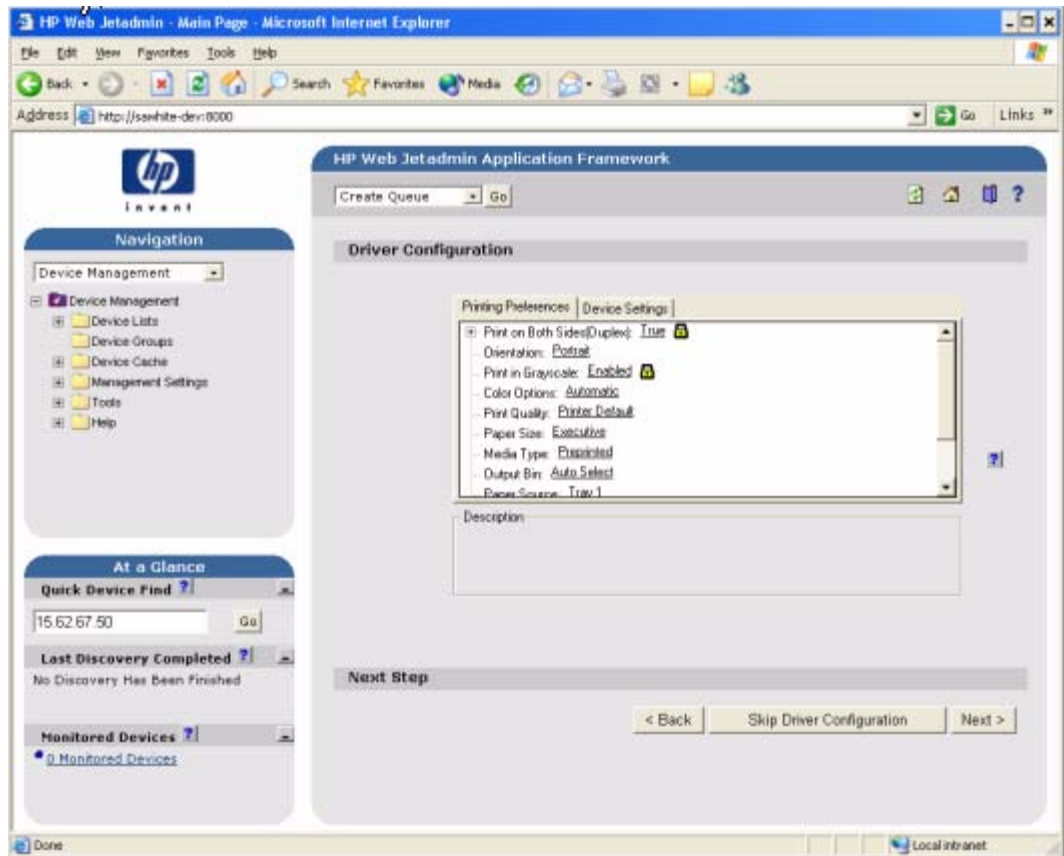
Printing Preferences settings are related to the actual formatting of documents as they are printed. By modifying the feature settings the default behavior of the driver will be altered. For example, if the **Media Type** setting is changed to **Letterhead**, then every job printed will *default* to being printed on Letterhead paper. The user can modify this setting both on a per-document or per-printer basis.

Feature locking

HP driver preconfiguration supports the ability to lock five settings:

- **Print on Both Sides (Duplex)**
- **Print in Grayscale**
- **Media Type**
- **Paper Source**
- **Output Bin**

When a feature is locked, the selected default option is the only option that will be available to users. Generally, the feature will simply be disabled in the driver UI once it has been installed. In Driver Configuration – Printing Preferences, for example, the **Print on Both Sides (Duplex)** setting has been locked to **True**. A small icon showing a padlock appears next to the setting in the UI. As a result, the user will be unable to print from this driver on only one side of the page. If the driver is installed on a server, clients connecting to that printer will also be unable to print on only one side of the page.

Constraints

The .CFG file is encoded with all of the same constraints that the drivers enforce. As a result, if the user of the HP Driver Configuration Editor attempts to set features to an invalid combination, a warning dialog appears, and the feature change that triggered the warning is returned to its original state. For example, if the **Media Type** option is set to **Transparency** when **Print on Both Sides (Duplex)** is set to **True**, an **Invalid Selection** dialog box appears, as shown in Figure 11.

Figure 11   Invalid selection - duplexing for transparencies
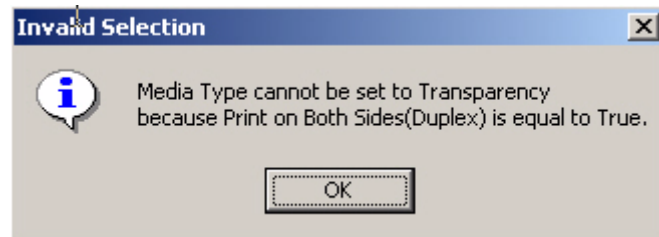
5   Save the configuration.

Customers often have a set of standard configurations that are used for a given product. The Driver Configuration plugin allows these configurations to be saved within Web JetAdmin for future use. Figure 12 shows the dialog box that appears when there some configurations have already been saved. If there were no existing saved configurations then the **Replace an Existing Configuration** option would not be appear. Each configuration is saved with a unique name. If an existing name is re-used, the old configuration is replaced.

Configurations are saved on a product-by-product basis. Therefore, a saved configuration for an HP Color LaserJet 5500, for example, will be accessible only when the queue creation is installing a driver for the HP Color LaserJet 5500.

Figure 12   Driver configuration – save configuration
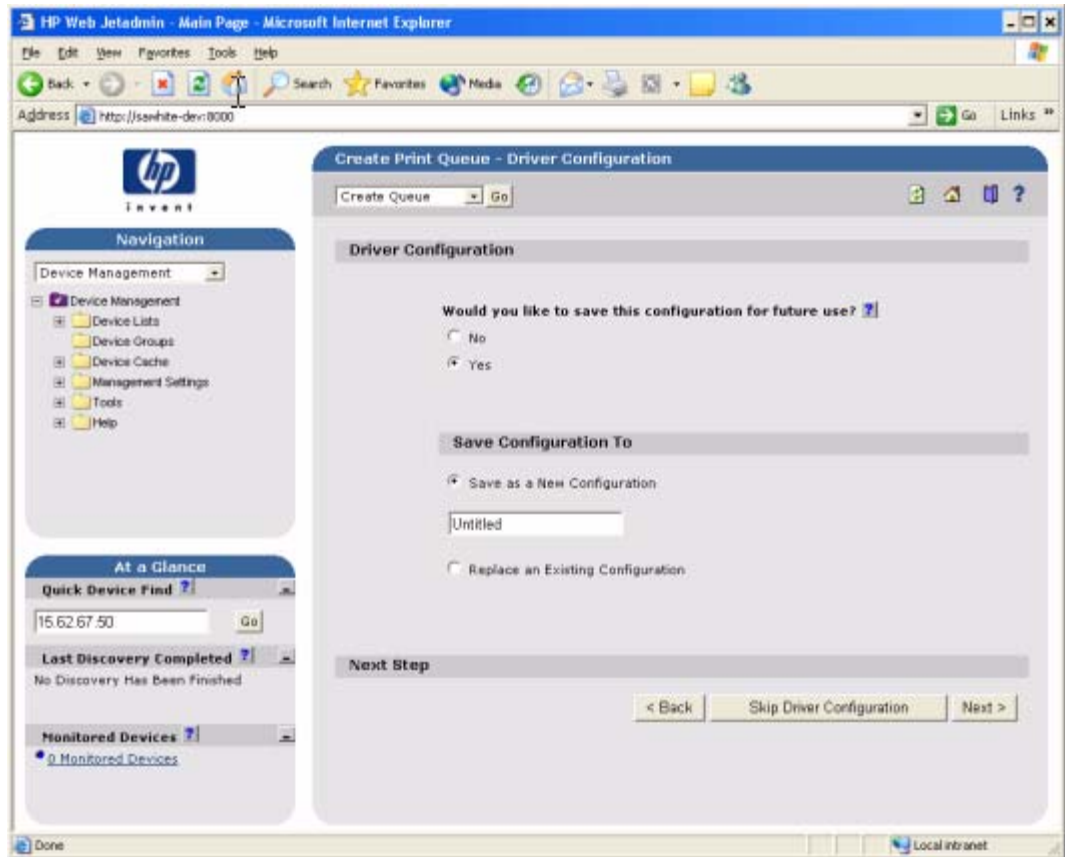
6   Complete queue creation.

After the configuration has been modified, clicking the **Next** button sends Web JetAdmin to the summary screen for the queue(s) to be created. From this point, the standard Web JetAdmin queue creation workflow continues in the same manner as when driver preconfiguration is not present. For detailed information about the queue creation process, see Web JetAdmin documentation at the following Web site:

hp.com/go/webjetadmin

HP Product Installation Software – Customization Utility/Silent Installer

The Customization Utility features an install-time mode of HP driver preconfiguration. It allows IT administrators to preconfigure the drivers for a printing system software driver installation with the silent installer.

Description

You can use the HP LaserJet printing system software to create a silent installer that runs the SETUP.EXE program without user interaction. This installation method is useful when you want to use the default selections provided by the installer or when you want to run the installation without being prompted. You also have the option of creating a custom disk image that contains specific drivers and utilities, allowing users to run the installer without further interaction.

Access/installation

Silent installation can be performed in two ways:

● Customized silent installer
● Command-line silent installer

Customized silent installer

Use this option to select the printing-system components to include in the silent installation. You can select the operating system, language, printer models, drivers, utilities, and documentation to install.

Command-line silent install

This method cannot be customized and installs only the printing-system components that are included in the Typical Installation.

Values that follow equal signs (=) in a command line must not contain intervening spaces.

Method 1: Command line

Type the following at the command line (do not type the beginning and ending quotation marks):

    "<CD-ROM-ROOT>/SETUP/SETUP.EXE /U /PORT=XXXX /PRINTER=N /PD=N"

Method 2: SETUP.LST

Use the SETUP.LST file to specify command-line arguments to the installer for an unattended installation. You can send command-line arguments in one of the following ways:

● Send the command directly to the installer.
● Send the command using the SETUP.LST file located in the setup directory.
● Use a combination of the two methods.

For example, this file contains two options: /port and /printer. The installer operates as normal because the /u option has not been specified. If you use setup /u for the installer, it operates in unattended mode and uses the two values specified in the defaults section of the SETUP.LST file. If you use setup /u /printer=4 for the HP Color LaserJet 5500 installer, for example, it operates in unattended mode and chooses the HP LaserJet 5500hdn. The options specified on the command line override the options specified in the SETUP.LST file.

The options available can also include the /u option. Using this option key makes the installer always operate as unattended. The following descriptions explain the available options:

● /u signals the installer to use the specified port and printer given on the command line (or in this file), and to use all default selections. Installation then proceeds without prompting the user.
● /port=xxxx is used to specify the default port when performing an unattended installation. The value specified by xxxx should be a valid port and should contain no spaces; for example, LPT1
● /printer=n is used to specify the default printer when doing an unattended installation. The value specified by "n" is an integer that references the list of available printers. For example, the following printers are available for the HP Color LaserJet 5500 series printer installation:
  • 0 = HP LaserJet 5500 printer
  • 1 = HP LaserJet 5500dn printer
  • 2 = HP LaserJet 5500dtn printer
  • 3 = HP LaserJet 5500 printer

- 4 = HP LaserJet 5500hdn printer
- 5 = HP LaserJet 5500n printer

● /pd=n is used to specify whether the selected printer is the default printer, when you have multiple printers connected to your network. The value specified by n is an integer (that is, 0 or 1). For this argument, entering 1 (one) sets the selected printer as the default printer. Entering zero (0) or not specifying a value at all sets the printer as a non-default printer.

You can preset these options in the SETUP.LST file located in the root directory of the HP LaserJet software CD-ROM. In the defaults section, add the following syntax:

[Defaults]

Options= /port=<value> /printer=<number> /pd=<number>

For example, <value> = LPT1,

Procedure

To enable DMC, follow these steps during installation:

1   In the software CD-ROM browser screen, click **Customization Utility**.

Figure 13   **CD-ROM browser window**
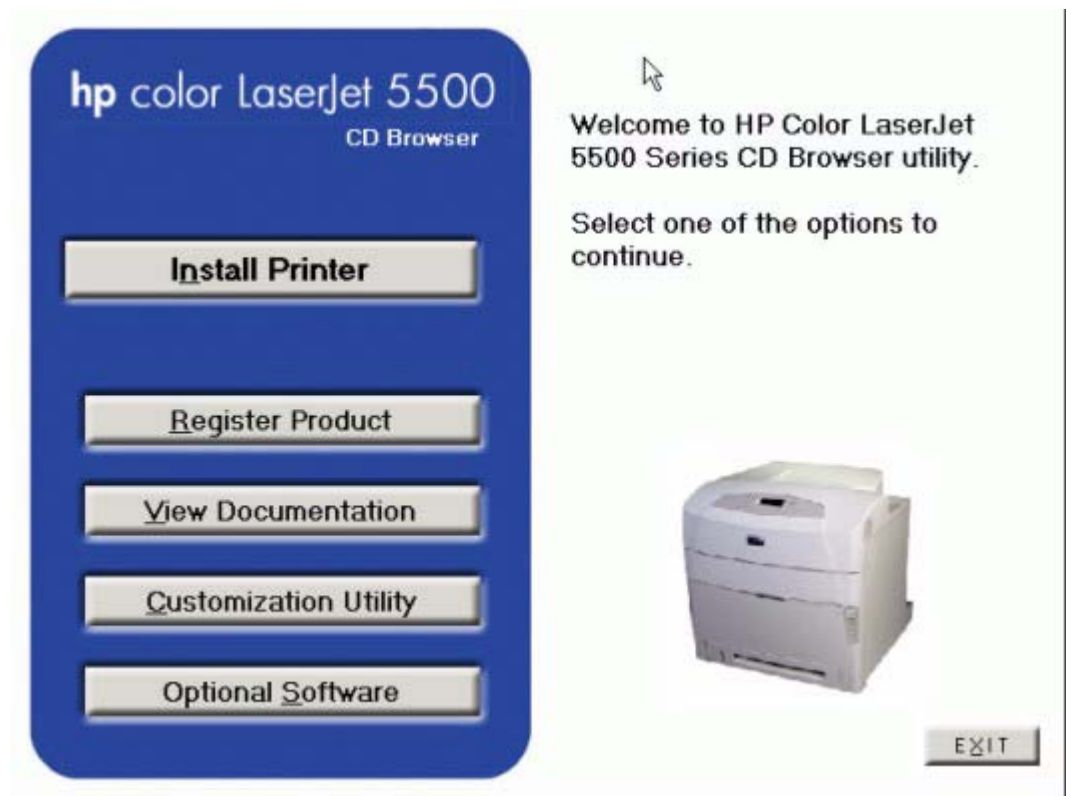
1   In the **Choose Setup Language** dialog box, select the language of your choice, and then click **OK**.

Figure 14   **Choose Setup Language dialog box**
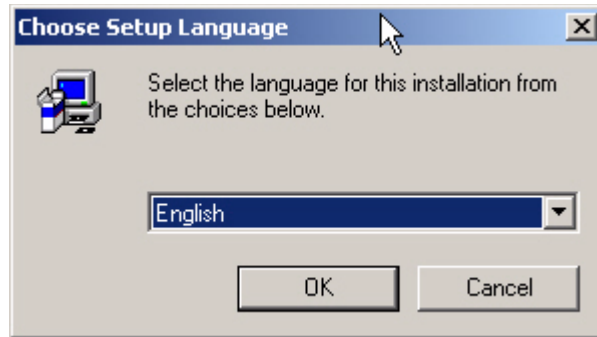
2   In the **Option** dialog box, click the **Create Customized Installer** option button, and then click **Next**.

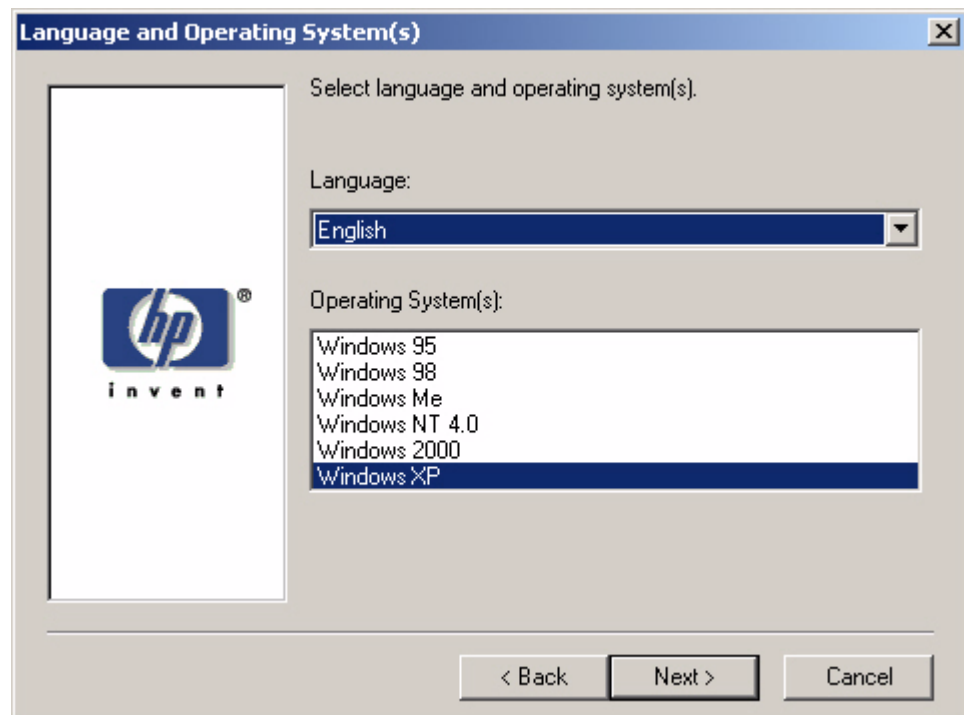**Figure 15**   **Option dialog box - Create Customized Installer**
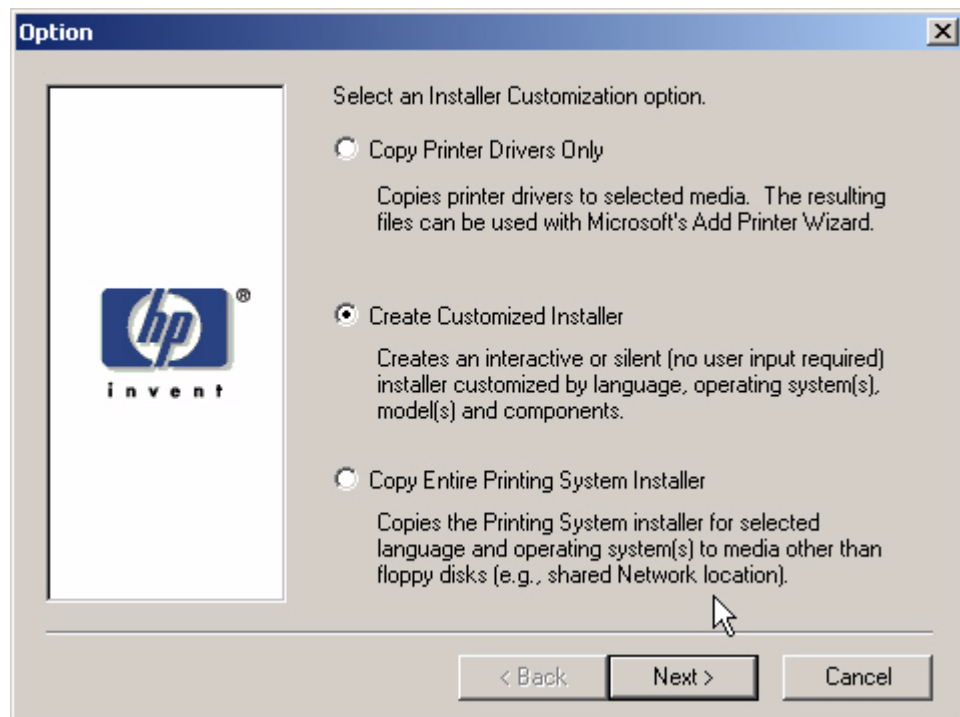
3 In the **Installer Type** dialog box, **click Silent Installer**.
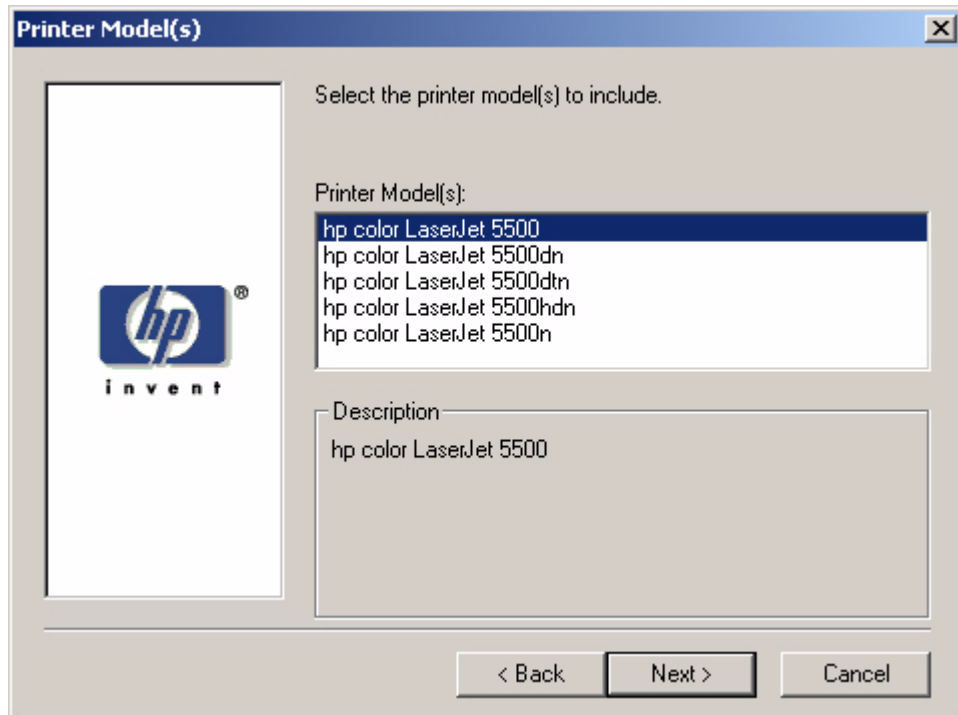
Figure 16   Installer Type - Silent Installer
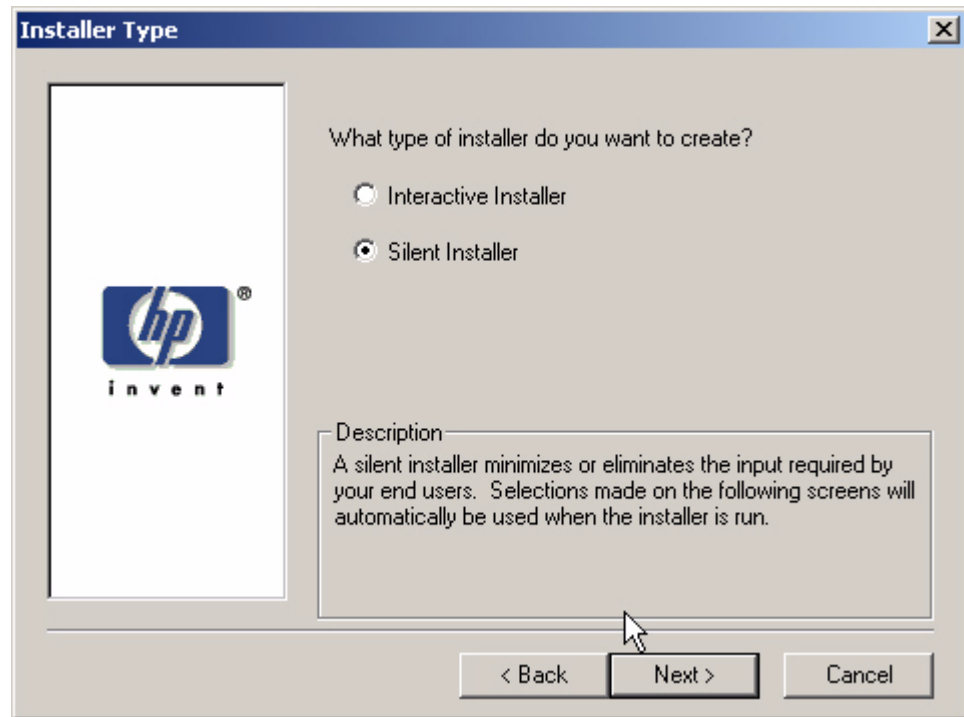
4 In the **Language and Operating System(s)** dialog box, select the language and operating systems of your choice, and then click **Next**.

Figure 17   Language and Operating System(s) dialog box

5 In the **Printer Model(s)** dialog box, select the printer model(s) to include, and then click **Next**.

Figure 18   Printer Model(s) dialog box

6 In the **Components** dialog box, select the components you want to install, and then click **Next**.
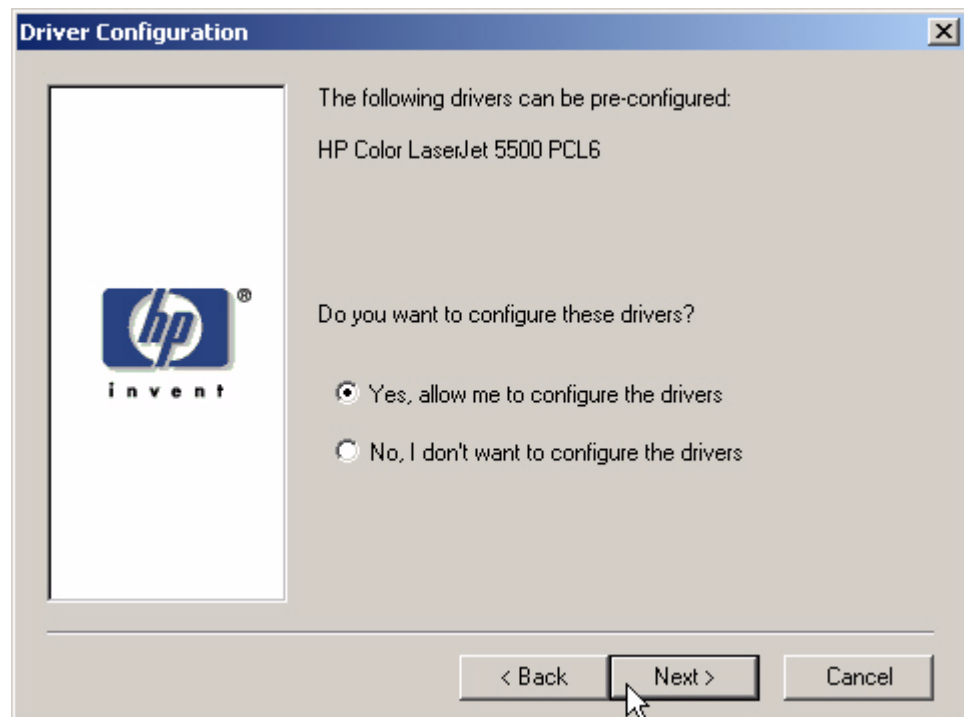
Figure 19   Components dialog box
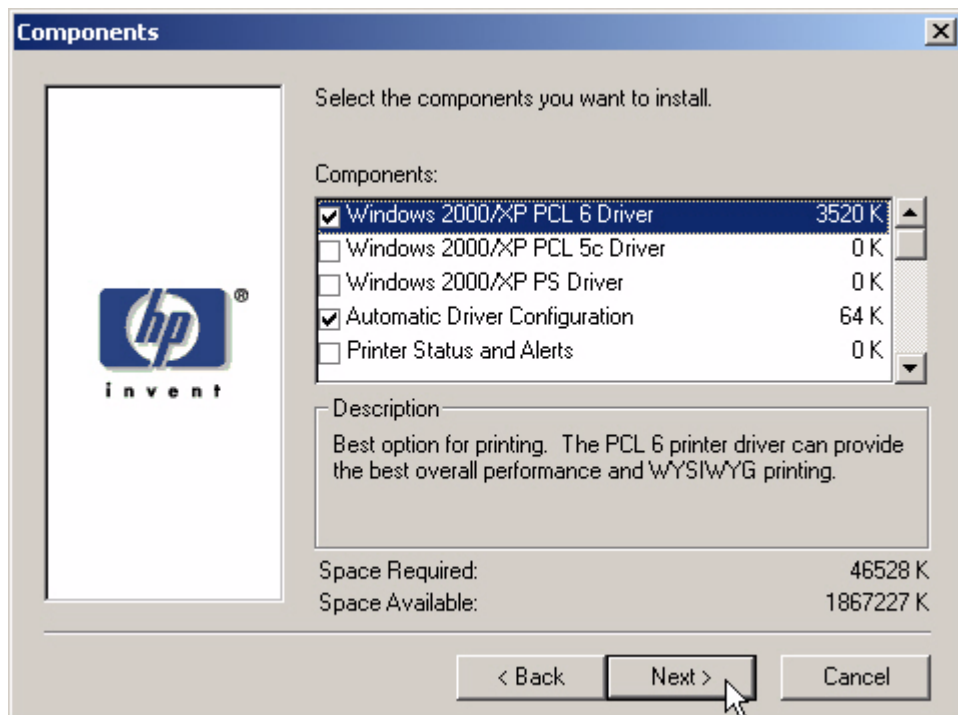
7 In the **Port** dialog box, select the printer port, and then click **Next**.

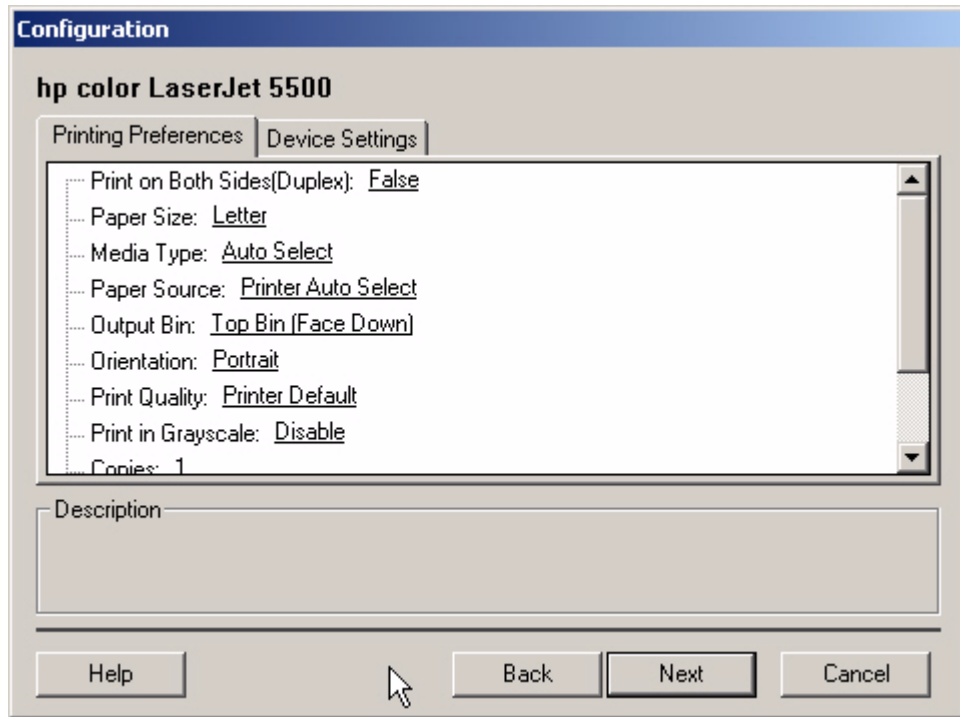**Figure 20   Port selection dialog box**
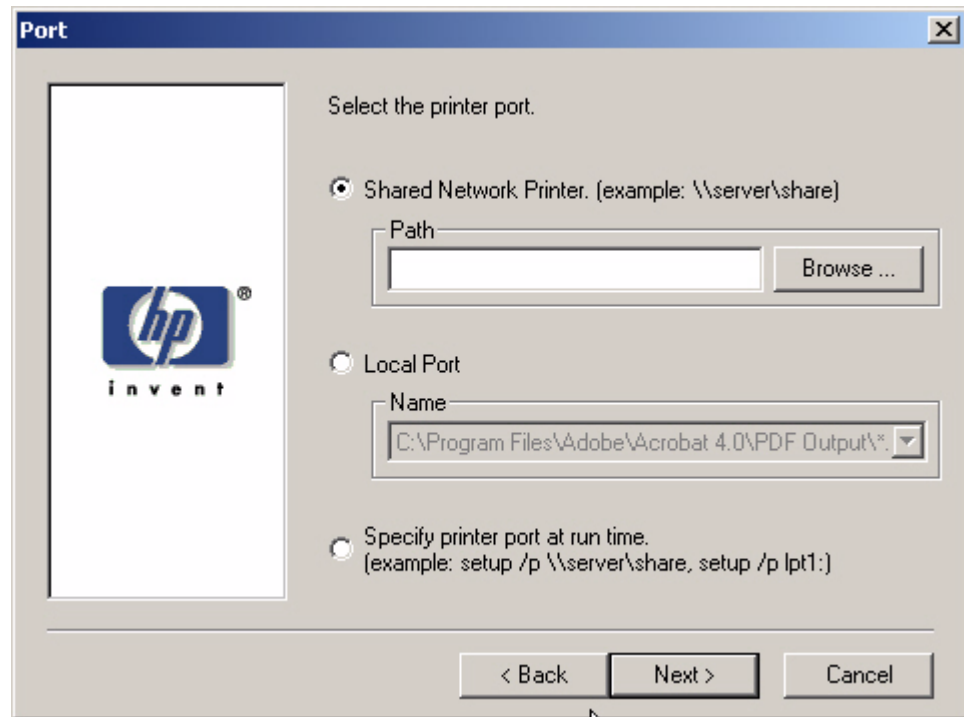
8 In the **Driver Configuration** dialog box, select the **Yes, allow me to configure the drivers** option button, and then click **Next** to proceed with the rest of the installation.
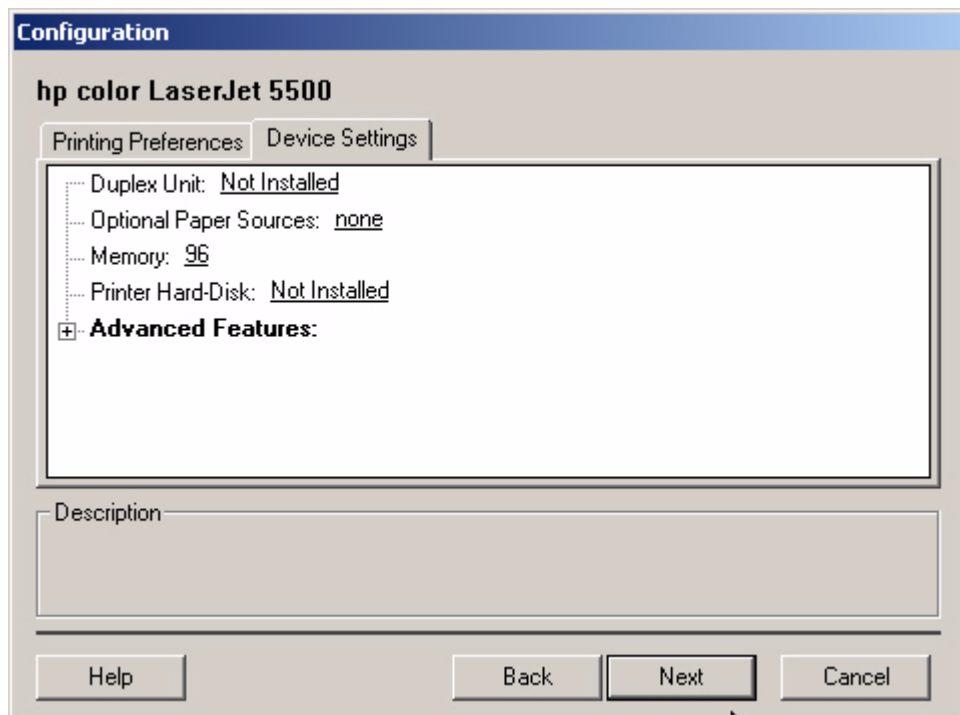
Figure 21   Driver Configuration dialog box

9 In the **Configuration** dialog box, click the **Printing Preferences** tab. Scroll through and select the settings that you want.

Figure 22   Configuration dialog box - Printing Preferences tab

10 Click the **Device Settings** tab. Scroll through and select the features that you want. When finished, select **Next**.

Figure 23   Configuration dialog box - Device Settings tab

Feature locking

HP driver preconfiguration supports the ability to lock five settings:

- **Print on Both Sides (Duplex)**
- **Print in Grayscale**
- **Media Type**
- **Paper Source**
- **Output Bin**

When a feature is locked, the selected default option is the only option that will be available to users. Generally, the feature will simply be disabled in the driver UI once it has been installed. In Driver Configuration – Printing Preferences, for example, the **Print on Both Sides (Duplex)** setting has been locked to **True**. A small icon showing a padlock appears next to the setting in the UI. As a result, the user will be unable to print from this driver on only one side of the page. If the driver is installed on a server, clients connecting to that printer will also be unable to print on only one side of the page.

Constraints

The .CFG file is encoded with all of the same constraints that the drivers enforce. As a result, if the user attempts to set features to an invalid combination, a warning dialog appears, and the feature change that triggered the warning is returned to its original state. For example, if the **Media Type** option is set to **Transparency** when **Print on Both Sides (Duplex)** is set to **True**, an **Invalid Selection** dialog box appears, as shown in Figure 5.
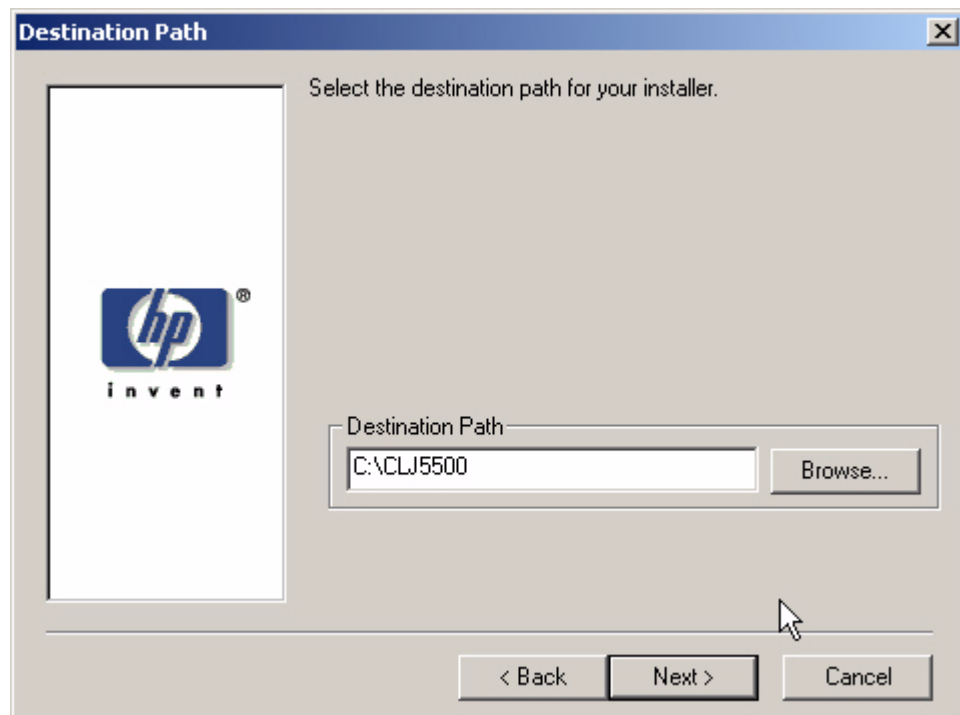
Figure 24   Invalid Selection dialog box
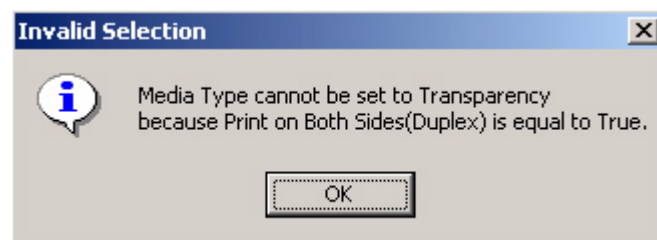
11 In the **Printer Name** dialog box, type a printer name (or use the default name), and then click Next.

Figure 25 **Printer Name dialog box**
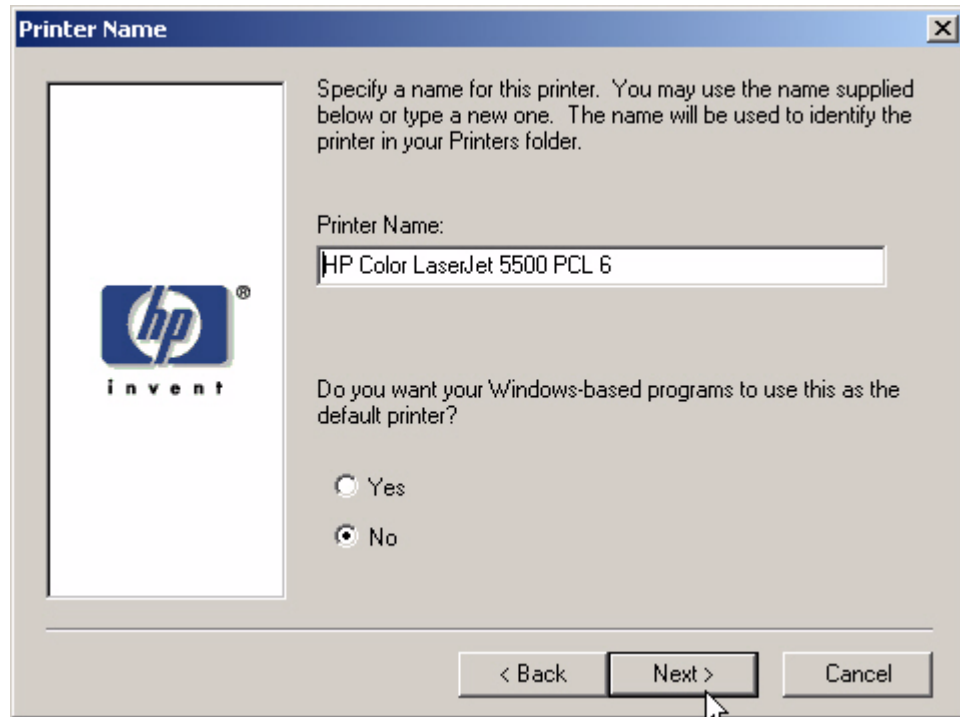
12 In the **Destination Path** dialog box, select a destination path (or use the default path), and then click **Next**.
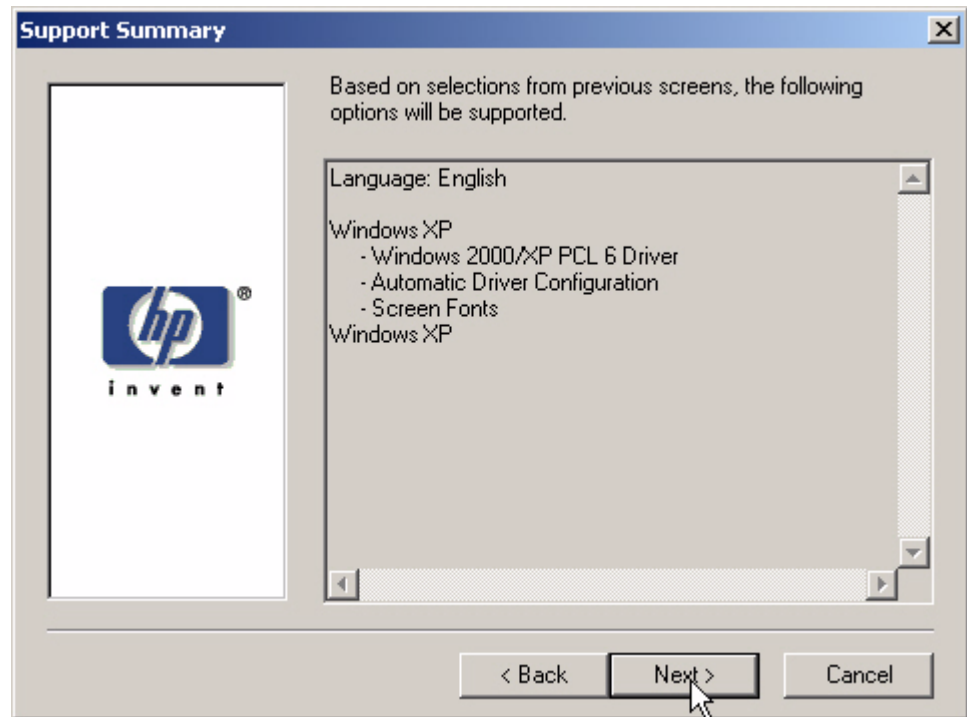
Figure 26 **Destination Path dialog box**

13 Review the information in the **Support Summary** dialog box, and then click **Next**.

Note: The information varies, depending on the language, your operating system, and the features you chose.

Figure 27   **Support Summary dialog box**

The software creates a custom installation file. Note the location of the file.

14 Click **Finish**.

The installation file is now available to install using the silent installer. To install the driver, navigate to the directory where the installation file is located, click setup.exe, and proceed with the installation.