

## Driver Deployment Utility FAQs



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# What is the Driver Deployment Utility?

The Driver Deployment Utility (DDU) was created to simplify the deployment of printer drivers onto a client PC. It is an easy to use utility that packages the driver files and the code needed to deploy them with 2 files: an executable (.exe) and a cabinet (.cab) file. These files are run on the client PC to copy the driver files to the Windows driver store, and for network packages, to install the printer driver.

## Changes from version 1.0

The DDU has been modified to display a progress dialog while the driver is being installed on the client. The progress dialog does not require user interaction and can be disabled to provide a completely silent install at runtime. To disable the progress dialog, run the deployment package with a /q command line. "*InstallPackage.exe /q*"

Command line options have been added to allow modification of the deployment package at runtime. The command line options overwrite current package settings. Full command line details are documented in the help file of the UI, and can be displayed by running the deployment package with a /? command line. "*InstallPackage.exe /?*"

## DDU Package command line Options:

For direct connect packages:

/?      display the command line information (English only)

/q      suppress the progress bar

/p      prompt user to connect the printer

/np     do not prompt user to connect the printer

/s      suppress the end user error messages

/ns     do not suppress the end user error messages

For Network connect packages:

/?      display the command line information (English only)

/q      suppress the progress bar

/s      suppress the end user error messages

/ns     do not suppress the end user error messages

/ip <ip address>      use the specified IP address to identify the printer, e.g. /ip 120.25.5.56

/hw <hardware address>      use the specified Hardware address to identify the printer, e.g. /hw 0001E6299128

/hn <hostname>      use the specified hostname to identify the printer, e.g. /hn Myhostname

In Dynamic mode the HP UPD provides the ability for a user to search the network for installed devices. This discovery process is done via an mDNS broadcast which is sent to the local sub-network of the HP UPD only. The most common reasons the devices do not appear in the discovery window are listed below.

1. The device is not turned on or functioning properly.

**Explanation:** Try to ping the device from the PC where the HP UPD is installed. If there is a response to the ping, continue troubleshooting.

2. The devices require the following protocols to be enabled to respond to the mDNS broadcasts.

- 9100
- IPv4 broadcasts
- mDNS protocol

**Explanation:** Enable the protocols, listed above, on the devices.

3. The devices not appearing could be on a different sub-network than the device running the HP UPD software.

**Explanation:** Ensure that the IP address for the HP UPD and the device are located on the same sub-network.

The hostname cannot be longer than 255 chars and can only contain the following characters: A-Z, a-z, 0-9 and the dash (-).

/pn <portname> use the specified name as the portname, e.g. /pn HPPort

The portname cannot contain spaces and cannot be longer than 128 characters.

/n "<printrname>" use the specified name as the name of the printer, e.g. /n "HP LaserJet 8150"

The printer name must be contained in quotes, cannot be longer than 40 characters and cannot contain any of these special characters: ! # ,

/d set this printer as default

/nd do not set this printer as default

/sn "<sharename>" turn sharing on and use the specified name as the share name for the printer, e.g. /sn "My shared HP LaserJet 8150"

The share name must be contained in quotes, cannot be longer than 80 characters and cannot contain any of these special characters: / \ ; " ? \* + = < > [ ]

/sn "" turn sharing off

## Does DDU work on all HP printer drivers?

The DDU will work with printer drivers that can be installed using Add Printer Wizard using an .inf. It is designed to work with printer drivers that have their files contained in one directory structure. Because this utility is generic, it does not have knowledge of how specific drivers are packaged. It will package up all files in the directory (and subdirectories) where the driver .inf was found.

The driver must be expanded so that the DDU can process the .inf files. If you download an .exe with the driver files, you will need to run it first to unpack all the files. Then you run the DDU to package it for deployment on the client system.

## Does DDU support driver pre-configuration?

Yes, the DDU can be used to pre-configure a driver for deployment. When the package is run on the client PC, the new configuration file is used to configure the driver after it is installed. This does not break WHQL certification.

## Does DDU break WHQL certification?

If the driver was WHQL certified, and the driver files are organized within one directory structure, then DDU will not break WHQL certification. DDU packages all the files found in the driver directory structure without modifying them. If driver pre-configuration is done, the new configuration file is used to configure the driver after it is installed. This does not break WHQL certification.

## When should I use the UPD installer instead of DDU?

The UPD (Universal Print Driver) installer has many unique settings that can be configured on the command line. If you need any of these unique items, you should use the UPD installer instead of DDU. See the white paper found on the documentation link at <http://www.hp.com/go/upd>, for more information.

You can use the DDU with the UPD installer, but the UPD command line would not be accessible. The DDU is designed to package and stage/install printer drivers. Driver specific features, like those found in the UPD installer are specific to the UPD installer and not supported by the DDU.

You might want to use the DDU instead of UPD to deploy a direct connect driver in traditional mode, or a network install in traditional mode.

## Does the DDU require administrative rights on the client system?

Yes, because the package will be copying files into the Windows driver store, you do need administrative rights.

For a direct connect, administrative rights are only required to run the .exe package. The user can then connect the printer without admin rights.

For a network connection, the .exe package will copy files to the driver store, create the port, install the driver and finally create the printer object. You will need administrative rights to do this.

## How do I install the DDU?

Simply copy the files to your administrative PC. DDU comes packaged as a self-extracting .exe file. Copy it to your administrative PC, then double click – it will expand the files into the proper directory structure.

DDU does not require an installation program. All the files will be contained in the "Driver Deployment Utility" directory. DDU does not require any registry entries.

To remove, simply delete all the files in the root DDU directory.

```
\Driver Deployment Utility
  \Help
  \HPDDU
  Hpddu.exe
  Portcreationsdk.dll
```

## How do I run the DDU?

Deploying drivers with the DDU is a two step process:

1. First you create the printer driver package to deploy by opening the DDU application. This can be done by double clicking hpddu.exe found in the Driver Deployment Utility root directory. This utility packages the driver and the code needed to stage/install the driver into a .exe and a .cab. An informational .xml (eXtensible Markup Language) file is also created and can be used to identify the package selections.
2. The second step is to run the new driver package (created in step 1, above) on the client PC. It can be copied to the client PC and run by double clicking, or it can be run from a server by pointing to it and double clicking. The package can also be run in a batch file. Administrative permissions are required to install or preload HP printer drivers.

## What does DDU do on the client system?

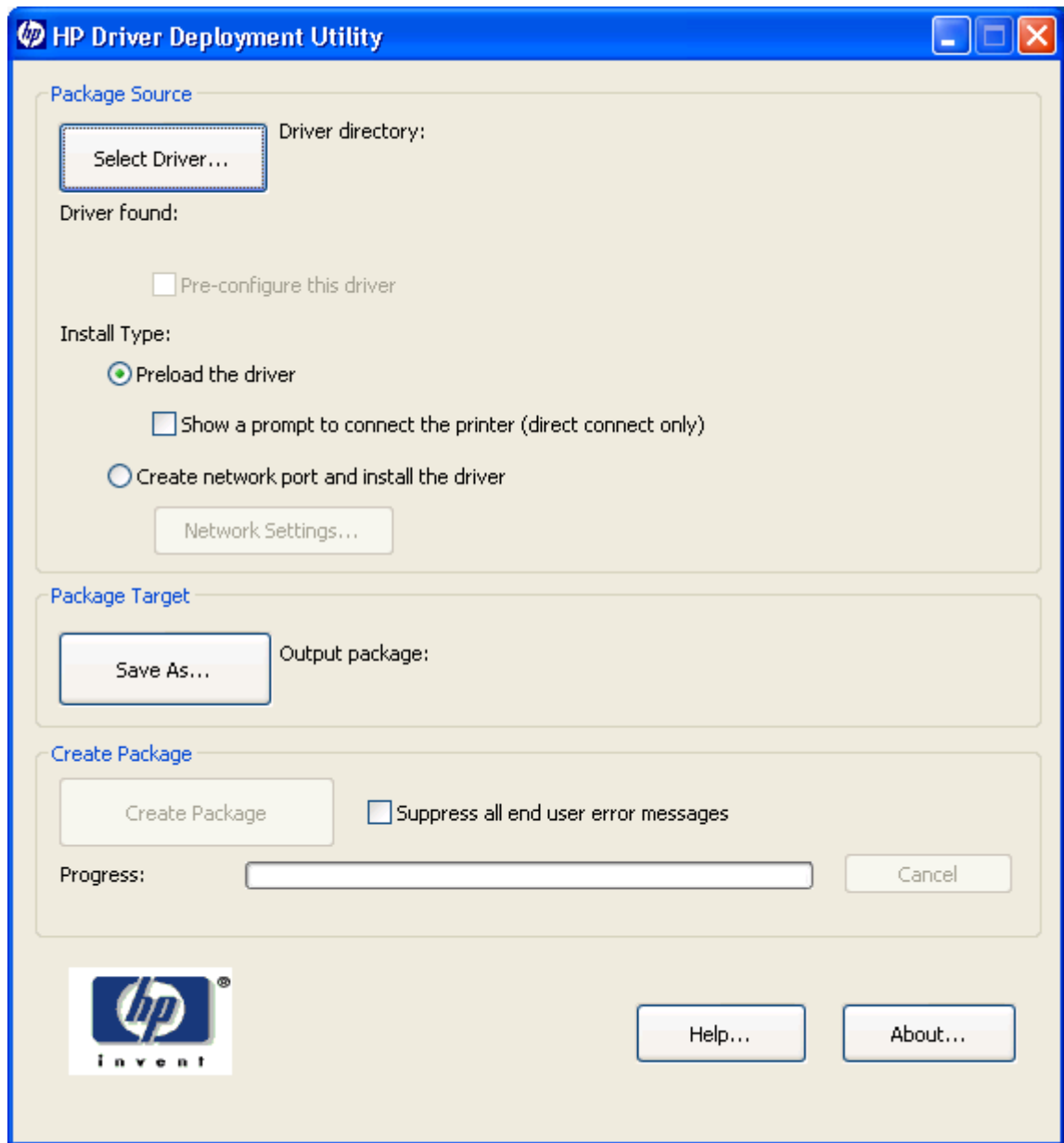
For a direct connect package, the DDU will copy the driver files into the Windows driver store and exit. Prior to exiting, an optional dialog can be shown to prompt the user to connect their printer after the files are copied. Upon completion of the package executable, when the user connects the printer to the PC, the OS will install the printer using plug and play software. (Note: if the printer is never connected to the PC, the printer will not be installed.)

For a network package, the DDU will copy the driver files into the Windows driver store, and then install the printer using the network information entered by the administrator.

## How do I use the DDU?

The UI is divided into 3 sections:

1. 'Package Source' describes the package type (direct connect or network connect) and driver location from which you want to create the installation package
2. 'Package Target' identifies the name and location of the finished installation package
3. 'Create Package' initiates the package creation process



## Package Source

### Driver Directory

Use the "Select Driver" button to enter the directory where your driver resides by browsing or typing it in. You should only have one driver package in this directory because this utility will package all the files found in this directory (and sub directories) into the executable. If you have downloaded a compressed driver package, you must expand it before using this utility.

In some cases, you may have multiple driver .inf files in the directory (sometimes one is for color and another for mono printers). In this case, an additional dialog will allow you to select which driver to package.

You will also get a warning if your directory is large. This is to help prevent packaging more than one driver. You may choose to continue at this point or not.

Once the driver directory is selected, and one driver has been found, the driver information is displayed below the directory selection in the Driver found: box.

For drivers that support pre-configuration, the checkbox for "Pre-configure this driver" will be enabled. Selecting this will run a configuration dialog after the 'Create Package' button is selected.

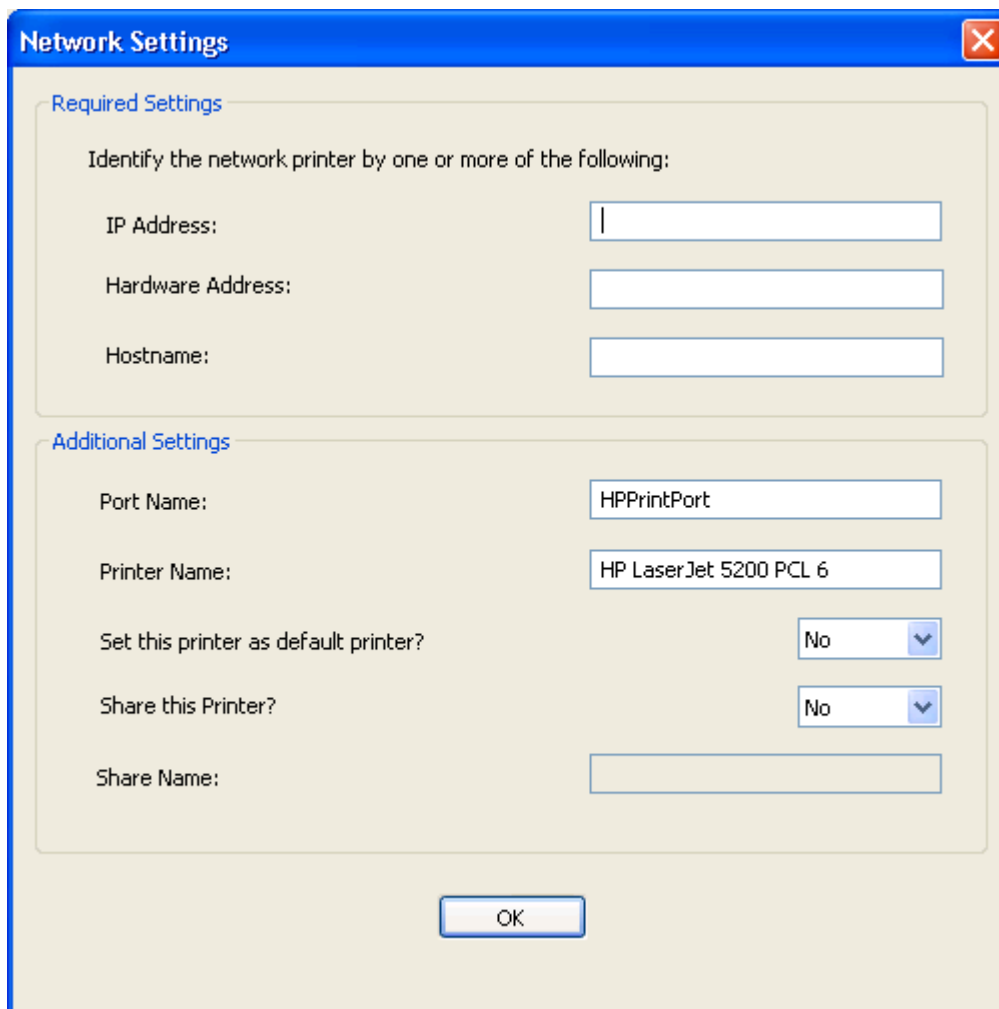
## Install Type

'Preload the driver' - is the option to select for users that will be using a direct connection, such as a USB cable. A future Plug and Play event will be necessary to install the driver, but all the files will be installed in the Windows driver store by this package for future use.

By default the executable runs with a progress dialog. To turn off the progress dialog, run the executable with a "/q" on the command line. If you would like to prompt the end user to connect the printer at the end of the install, then select the checkbox 'Show a prompt to connect the printer'.

For printers using a network connection, select the 'Create the network port and install driver' option. The 'Network Settings' button will become enabled, and you should click on it to enter the required network settings. (Note: if you don't select your driver first, you'll get an error dialog. You must select your driver first so that the printer name can be derived from the driver name.)

## Network Settings



The image shows a Windows-style dialog box titled "Network Settings" with a blue title bar and a red close button in the top right corner. The dialog is divided into two main sections: "Required Settings" and "Additional Settings", both with blue headers. The "Required Settings" section contains the instruction "Identify the network printer by one or more of the following:" followed by three text input fields labeled "IP Address:", "Hardware Address:", and "Hostname:". The "Additional Settings" section contains five controls: a "Port Name:" text field with "HPPrintPort" entered, a "Printer Name:" text field with "HP LaserJet 5200 PCL 6" entered, a "Set this printer as default printer?" checkbox (unchecked) with a "No" dropdown menu, a "Share this Printer?" checkbox (unchecked) with a "No" dropdown menu, and a "Share Name:" text field. An "OK" button is located at the bottom center of the dialog.

Section	Field/Control	Value
Required Settings	IP Address:	
	Hardware Address:	
	Hostname:	
Additional Settings	Port Name:	HPPrintPort
	Printer Name:	HP LaserJet 5200 PCL 6
	Set this printer as default printer?	No
	Share this Printer?	No
	Share Name:	



You must identify the network printer by one of the following methods. This utility does not communicate with the device to determine if the settings are valid, but does do syntax checking. The administrator is responsible for identifying the printer with the correct IP address, Hardware address, or Hostname.

IP Address:

Enter the IPv4 or IPv6 address of the printer

Hardware Address:

Enter the hardware address of the printer

Hostname:

Enter the hostname of the printer

The following network settings are additional. You may accept the default values pre-entered or change any of them.

Port Name:

This is the network port name that will be created. If the name already exists, a number will be appended to make it unique.

Printer Name:

This is the printer name that will appear in the printers' folder. If the name already exists, a number will be appended to make it unique.

Set this printer as default:

Yes - will make this printer the default when printing from other applications.

No - will retain the current default, unless this is the only printer installed.

Share this printer:

Yes - will allow others to use this printer.

Share Name:

Share name for the printer. Only enabled if 'Share this printer' is Yes. If the name already exists, a number will be appended to make it unique.

To exit the Network Settings dialog without saving, use the Windows close button (X) in the upper corner.

## Package Target

Use the "Save as" button to enter the name and location for the output package by browsing or typing it in. The utility will create the package in the temp directory and then move it to the final location.

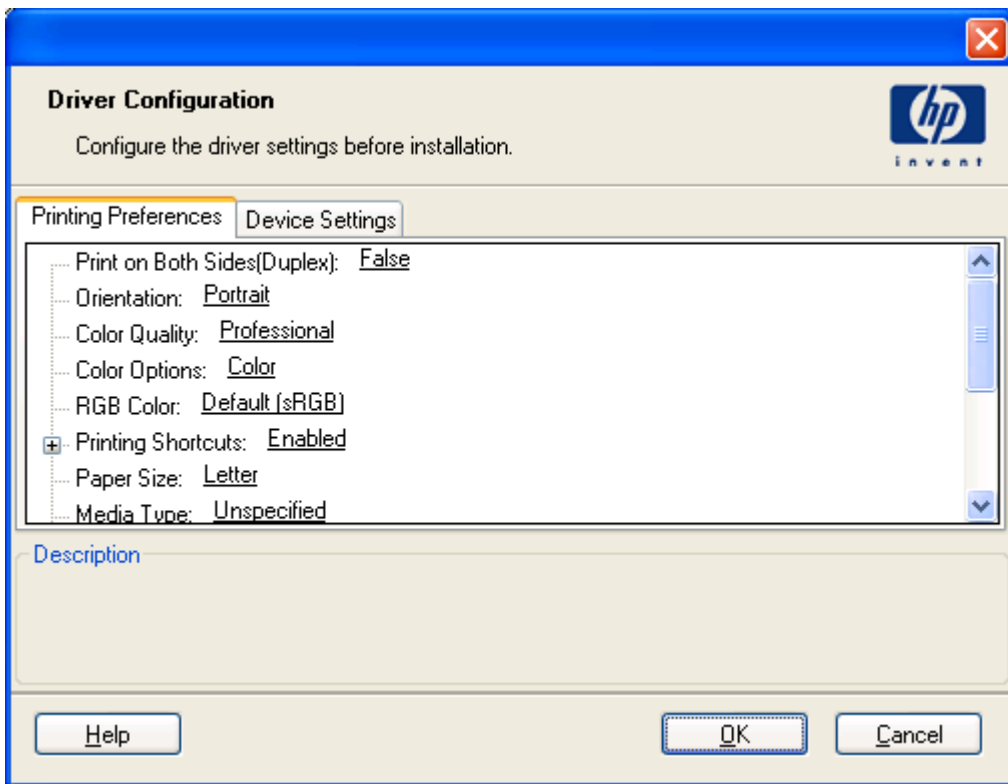
## Create Package

Select the 'Create Package' button when you have entered all the above information. This button will be disabled until you have entered the required information. Once selected, the 'Cancel' button and 'Progress' bar will be enabled.

To stop the package creation, select the 'Cancel' button.

The executable will run with a progress dialog, and if requested, a user prompt for a direct connect printer. If an error is encountered during execution, an error dialog will appear. To suppress the error dialog, you should select the 'Suppress all end user error messages' checkbox.

After selecting the "Create Package" button, if "Pre-configure this driver" was also selected, the Driver Configuration dialog will open and allow you to set configuration details for this driver. After accepting the configuration changes, the package will be created.



## Additional Notes:

To close this application use the Windows close button in the upper corner.

## What Operating Systems are supported?

Microsoft Windows 2000 Service Pack 4  
 Microsoft Windows XP  
 Microsoft Windows XP 64-Bit Edition  
 Microsoft Windows Server 2003 / 2008  
 Microsoft Windows Server 2003 / 2008 64-Bit Edition  
 Microsoft Windows Vista  
 Microsoft Windows Vista (64-bit)

## How do deploy a direct connect printer driver with pre-configuration?

If you load multiple pdls (page description languages e.g. PCL 6, PS, PCL 5) for one printer, the Operating System (OS) will determine which one satisfies the Plug and Play event. The OS will create one printer object for that pdl.

1. Run hpddu.exe to create the package.
2. From Package Source section:
  - a. Select the driver to package by browsing to an .inf file in the directory.
  - b. Select the pre-configuration checkbox. (Only enabled for drivers that support pre-configuration. Selecting this will run a configuration dialog after the 'Create Package' button is selected. )
  - c. Select the "Preload the driver" Install Type
  - d. Select the "Show a prompt to connect the printer" checkbox if you want to prompt the user after the files are copied

3. From Package Target section:
  - a. Select the output name and location. Three files will be written here: an .exe, a .cab and an .xml with information about the package created – each file will have the same, specified, name but different file extension.
4. From Create Package section:
  - a. If you want to suppress any error messages select the "Suppress all end user error messages" checkbox.
  - b. Select the "Create Package" button
  - c. The configuration dialog will open and allow you to set configuration details for this driver. After accepting the configuration changes, the package will be created.
5. Run the new .exe from the client machine. By default the executable runs with a progress dialog. To turn off the progress dialog, run the executable with a "/q" on the command line. You must have administrator rights to run the exe because it will be copying files into the Windows driver store. Now the driver files are on the system, and any user can connect the printer to trigger the plug and play event. (NOTE: The printer object isn't created until the printer is connected.)

## Note: Deploying multiple direct connect drivers with pre-configuration

If you deploy multiple direct connect drivers, with pre-configuration, and they all use a pre-configuration file with the same name, the first one connected will be the only one configured properly. (This might happen if you deploy the PCL6 and PCL5 drivers for the same printer.) The reason is that the configuration file is copied to the \3 directory awaiting the printer being connected. Copying the new configuration file to the \3 directory avoids breaking WHQL certification. (Each deployment will just copy over the same configuration file since they all use the same name.) Once the printer is connected, this configuration file gets consumed and deleted. Future Plug and Play events will not have the configuration file available.

## How do I deploy a network printer driver with pre-configuration?

1. Run hpddu.exe to create the package.
2. From Package Source section:
  - a. Select the driver to package by browsing to an .inf file in the directory.
  - b. Select the pre-configuration checkbox. (Only enabled for drivers that support pre-configuration. Selecting this checkbox will run a configuration dialog after the 'Create Package' button is selected.)
  - c. Select the "Create network port and install driver" Install Type
  - d. Select the "Network Settings" button to enter the network settings.
3. From Network Settings dialog:
  - a. From the "Required Settings" section, enter at least one way of identifying the printer (IP address, Hardware address, or Hostname).
  - b. Make any changes to the "Additional Settings" section (port name, printer name, default printer, sharing and share name). You can leave the default settings if you don't need to make changes.
4. From Package Target section:
  - a. Select the output name and location. Three files will be written here: an .exe, a .cab and an .xml with information about the package created – each file will have the same, specified, name but different file extension.

5. From Create Package section:
  - a. If you want to suppress any error messages select the "Suppress all end user error messages" checkbox.
  - b. Select the "Create Package" button
  - c. The configuration dialog will open and allow you to set configuration details for this driver. After accepting the configuration changes, the package will be created.
6. Run the new .exe from the client machine. By default the executable runs with a progress dialog. To turn off the progress dialog, run the executable with a "/q" on the command line. You must have administrator rights to run the .exe because it will be copying files into the Windows driver store. A port and printer object will be created with the information provided above.

## How do I reuse a package I created?

Run the package with /? on the command line to display the command line options available. You cannot change a package from direct to network connect – only modify some of the settings. If you do not overwrite a setting, the current package setting will be used. The printer name and share name settings must be in quotes if they contain spaces.

A common scenario might be to reuse a network package by changing the IP address of the target printer on the command line, and suppress the progress dialog. Use the following command line:

```
DeploymentPackage.exe /ip 20.40.60.80 /q
```

You might also need to change the printer name in the above example:

```
DeploymentPackage.exe /ip 20.40.60.80 /q /n "my printer name"
```

## Common Problems:

### I get a warning when I select the driver

If too many files are found in the driver directory, or the directory is really large, a warning is displayed so the user doesn't accidentally package up something they didn't intend to (such as the root directory). Some drivers are really large, and you can choose to ignore this warning and continue.

To minimize package size, each driver should be in its own directory. This is usually the default behavior when you expand a driver.

### I get an error when I try to open the "Network Settings" dialog

You need to first select a driver before opening the "Network Settings" dialog. This allows the printer name field to be filled-in based on the driver name.

### The "Create Package" button is not enabled

This button will not be enabled until you have:

1. Selected the driver
2. If network connect – filled out one of the required network settings
3. Selected the "Save as" name and directory.

### How do I exit the DDU?

Use the Windows close button in the upper corner.

The Network Settings dialog keeps displaying an error, and I just want out

If you do not want to save settings, or change your mind and don't want a network install, you need to close the network settings dialog with the Windows close button in the upper corner. Using the OK button, will try to validate the settings, and that is what is causing an error.

What if the user connects the printer before the DDU package is run?

If the user connects the printer, but then cancels the plug and play event before it finishes, this creates an incomplete plug and play event. After copying the driver files to the Windows driver store, the DDU code will cleanup incomplete plug and play events for devices supported by this driver. Then it will refresh the bus, causing the Operating System to plug and play the printer (installing the driver and creating the printer object.)

## Glossary

- Windows driver store – a special directory where the Windows OS stores drivers.
- Staging/Preloading – copying the driver files into the Windows driver store, so that they automatically satisfy a future plug and play event for direct-connect printers.

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