
Using PostScript Printer Description Files

Graphics & Animation: Printing



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Introduction to Using PostScript Printer Description Files

PostScript printer description (PPD) files are created by printer vendors to describe the set of printer features available for their PostScript printers. On the Macintosh, PPD files provide all the information necessary to describe a PostScript printer's features, including options and default settings. They also contain the PostScript code used to invoke those features.

This document is important for printer vendors who are providing PPD files in Mac OS X because it

- describes where PPD files need to be installed
- provides information about localizing PPD files
- details the differences between PPD support in Mac OS X and earlier versions of the Mac OS
- tells what you need to do if you provide a printing dialog extension for your PostScript printer
- shows how to specify that certain features should be grouped in the interface
- discusses how Mac OS X searches for PPD files

Application developers might also find this document useful because it

- provides an overview of PPD files and how Mac OS X handles the files
- describes the Printer Features pane in the Print dialog

For detailed information on PPD files, see *PostScript Printer Description File Format Specification*, available from Adobe Developer Support:

<http://partners.adobe.com/>

Support for PPD Files: Past and Present

The LaserWriter 8 driver is Apple's general purpose PostScript printer driver for Mac OS 9 and earlier. It was designed to work with any PostScript or PostScript-compatible printer connected to a Macintosh computer. The LaserWriter 8 driver (specifically version 8.4.1 and later) allows developers to define a custom user interface using 'ppdt', 'PPDA', 'DITL', and 'ALRT' resources in the PPD file. (See Apple TechNote 1068 for more information.) In the absence of these resources the LaserWriter 8 driver provides a generic user interface for the features in the PPD file that are defined by the *OpenUI/*CloseUI keywords. (See "[PostScript Printer Description Files](#)" (page 9) for more information on PPD keywords.)

The Mac OS X printing system also parses PPD files and provides an interface for PostScript printer features, but Mac OS X does not use the resource fork data in a PPD file. Apple supports a set of standard features for all printers while allowing developers to add features either through a custom user interface or by letting Mac OS X automatically create the user interface for nonstandard features. Developers who want to create a custom user interface must write a printing dialog extension (PDE).

Differences Between Mac OS X and LaserWriter 8

The differences between the Mac OS X printing system and the LaserWriter 8 bring up a number of issues for developers who support PostScript printing in Mac OS X and earlier versions of the Mac OS, including from the Classic environment. Applications that print from the Classic environment use an unmodified version of the LaserWriter 8 driver as their primary PostScript printer driver.

Here's a summary of the differences and the issues you may need to consider:

- Mac OS X does not use the resource fork data in a PPD file; earlier versions of the Mac OS do. If a PPD file that's needed by Mac OS X exists only in the Classic System Folder, Mac OS X uses that PPD file. However, Mac OS X only uses the information in the data fork, not the resource fork.
- Mac OS X uses printing dialog extensions to add or replace panes in the Print dialog while earlier versions of the Mac OS use data in the resource fork of the PPD file to control the layout of features in a custom pane.

This means if you take advantage of the resource-based PPD file to do custom panels for earlier versions of the Mac OS, the corresponding printer features appear in the Printer Features pane of the Print dialog as generic features in Mac OS X (unless you provide printing dialog extensions to handle these features.)

Conversely, if you provide a printing dialog extension for a PostScript printer, and use the data-fork-only PPD file in Mac OS X and for the LaserWriter 8 driver, LaserWriter 8 uses its generic user interface.

- The location of some of the features in the Print dialog provided by the LaserWriter 8 driver and that are provided by Mac OS X are slightly different. For example, the duplex option appears in the Layout pane provided by LaserWriter 8, but in the Duplex pane in Mac OS X.
- Mac OS X printing and the LaserWriter 8 driver support a similar, but slightly different set of features. If you use the same PPD file in the Classic environment as you do for Mac OS X, the user interface might not reflect all the printer features in the PPD file.
- Desktop printing is not supported in Mac OS X and it is not available when printing from an application in the Classic environment.

PPD Concepts

A PostScript printer description (PPD) file is a text file that contains keywords and other information to specify printer features, options, and settings. PPD files are created by printer vendors for a specific PostScript printer or printer family, and must comply with Adobe's *PostScript Printer Description File Format Specification*. Mac OS X parses the contents of a PPD file to discover the features provided by a printer, and then uses that information to build a user interface and supply PostScript code to invoke the feature settings chosen by the user.

This chapter

- provides an overview of PostScript printer description (PPD) files and the important keywords for Mac OS X
- describes the Printer Features pane that can appear in the Print dialog for a PostScript printer
- shows how Mac OS X searches for and chooses PPD files

PostScript Printer Description Files

There are two types of keywords in a PPD file: main and options. **Main keywords** describe a printer's features, such as page size (`*PageSize`) and font (`*Font`). **Option keywords** describe the options associated with a feature, such as `Letter` and `Legal` for `*PageSize`. [Listing 2-1](#) (page 9) shows an excerpt from a PPD file. In each case, the main keyword `*TraySwitch` is followed by an option keyword and the PostScript code to invoke that option.

Main keywords have two subclasses: default and query keywords. **Default keywords** always have `Default` in the prefix and indicate the default setting for a feature associated with a main keyword, such as `*DefaultTraySwitch`.

Query keywords are associated with PostScript code that can be downloaded to a printer to get information about the printer's current state. For example, the query keyword `*?TraySwitch` in [Listing 2-1](#) (page 9) is followed by PostScript code that, when executed in the printer, sets the paper tray used by the printer. A main keyword does not need an associated query keyword, but a query keyword is always associated with a main keyword.

Listing 1-1 An example PPD file entry for the tray switch option

```
*OpenUI *TraySwitch/Tray Switching: Boolean
*OrderDependency: 20 AnySetup *TraySwitch
*DefaultTraySwitch: False
*TraySwitch True/True: "1 dict dup /TraySwitch true put setpagedevice"
*TraySwitch False/False: "1 dict dup /TraySwitch false put setpagedevice"
*?TraySwitch: "
    save
    currentpagedevice /TraySwitch get
    {(True)}{(False)}ifelse = flush
```

```

    restore
"
*End
*CloseUI: *TraySwitch

```

Some main keywords in a PPD file are included to build the interface that allows a user to choose the settings for a print job. These are called **structure keywords**. The two keyword pairs that are important for Mac OS X PPD files are `*OpenGroup/*CloseGroup` and `*OpenUI/*CloseUI`. You need to know about these keywords if you want to take advantage of the Printer Features pane (see [“The Printer Features Pane in the Print Dialog”](#) (page 11)).

The `*OpenGroup/*CloseGroup` keywords are optional and are used to group features that should appear together in the user interface. A string value must be provided with the `*OpenGroup/*CloseGroup` keywords to specify the name of the group. [Listing 2-2](#) (page 10) shows an excerpt from a PPD file that describes a group. The first line `*OpenGroup: Finishing/Finishing Options` and the last line `*CloseGroup: Finishing` enclose a list of features that should appear in the user interface as a group. The translation string `Finishing Options` specifies the label to use in the user interface for the group.

Listing 1-2 Specifying a group of Finishing features in a PPD file

```

*OpenGroup: Finishing/Finishing Options
*OpenUI *FoldType/Fold Type: PickOne
*DefaultFoldType: None
*FoldType Fan/Fan: "% postscript code to invoke Fan fold "
*FoldType Saddle/Saddle: "% postscript code to invoke Saddle fold "
*FoldType Wing/Wing: "% postscript code to invoke Wing fold "
*FoldType None/None: "% postscript code to invoke no fold "
*CloseUI: *FoldType

*OpenUI *BannerSheet/Banner Sheet: Boolean
*DefaultBannerSheet False:
*BannerSheet True/True: "% postscript code to invoke a banner sheet "
*BannerSheet False/False: "% postscript code to turn off a banner sheet "
*CloseUI: *BannerSheet

*CloseGroup: Finishing

```

The `*OpenUI/*CloseUI` keywords are used to enclose keywords and values that describe printer features the user may select. In Mac OS X, the `*OpenUI` keyword can take `Boolean` and `PickOne` options. A `PickOne` list is one in which a user may choose only one item from a list of available options. (The `PickMany` option is not supported even though it is listed in the *PostScript Printer Description File Format Specification*.)

[Listing 2-2](#) (page 10) shows two features defined by the `*OpenUI` keyword—fold type and banner sheet. Fold type is a feature that has four options—fan, saddle, wing, and none. In Mac OS X, the options appear on a pop-up menu titled `Fold Type`, with `None` as the default setting. `Banner Sheet` is a `Boolean` option that can be on (`True`) or off (`False`). The default is off. In Mac OS X, this option appears as a checkbox labelled `Banner Sheet`.

Although [Listing 2-2](#) (page 10) shows the `*OpenUI` features enclosed by the `*OpenGroup/*CloseGroup` keywords, the grouping keywords are optional. Grouping keywords provide printer vendors with the opportunity to control which features appear together in the user interface. You can find more information on defining groups in [“Specifying Grouping in the Printer Features Pane”](#) (page 20).

For more detailed information on PPD keywords and syntax, see *PostScript Printer Description File Format Specification*, available from Adobe Developer Support:

<http://partners.adobe.com/>

The Printer Features Pane in the Print Dialog

In Mac OS X, Apple provides panes in the Print dialog for the most common printer features. These panes include Copies & Pages, Layout, Output Options, Paper Feed, Error Handling, Duplex, and Summary. Whether a pane appears in the Print dialog depends on the printer's specific features. Two of these panes are available only for PostScript printers—Paper Feed and Error Handling. See *Inside Mac OS X: About the Mac OS X Printing System* for a description and an example of each of these panes. What if your PostScript printer has some less than common features that are not in these Apple-provided panes? As a developer, you have two choices: create a custom pane or use the Printer Features pane provided by Apple for PostScript printers.

You can create a custom pane for a printer by writing a printing dialog extension (PDE). *Inside Mac OS X: Extending Printing Dialogs* provides details on writing a printing dialog extension. You should also see “[Adding PPD Keywords to a PDE's Information Property List](#)” (page 21) for information on what you must do to register the PPD keywords that are supported by your custom printing dialog extension.

Although the Printer Features pane does not give you as much control over the user interface as creating a custom pane does, it provides a fairly easy way for you to make features accessible in the user interface. This remainder of this section describes the Printer Features pane and discusses what you must do to have your printer's features appear in this pane.

Printer Features is a pane in the Print dialog that is available only for PostScript printers. [Figure 2-1](#) (page 12) shows a sample Printer Features pane. For a feature to appear in this pane, the feature must be defined in the PostScript printer description file as follows.

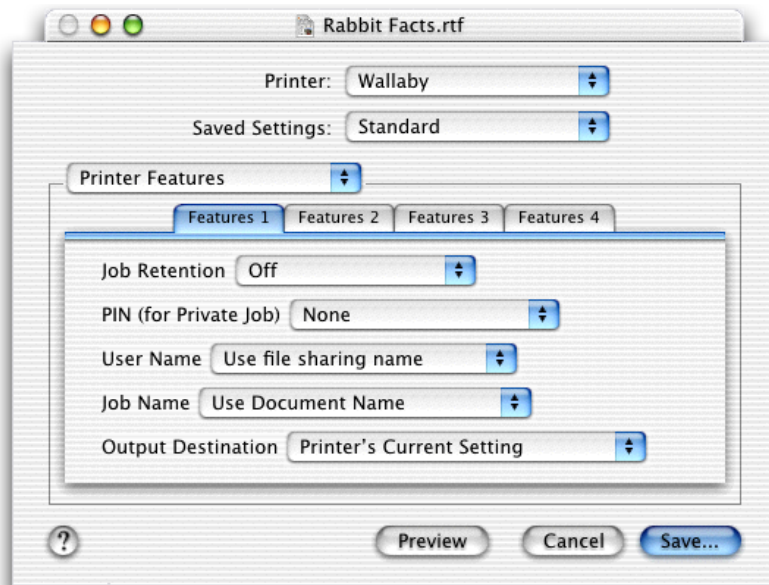
- The feature must be defined with the `*OpenUI/*CloseUI` keywords.
- The `*OpenUI` keyword must have either the `Boolean` or `PickOne` option. The `PickMany` option is not supported.
- A `Boolean` option must explicitly define two options, `True` and `False`, otherwise it is treated as a `PickOne` option.
- Features can be grouped by enclosing their definitions with the `*OpenGroup/*CloseGroup` keywords, and specifying a name for the group. This is optional.

The Mac OS X printing system follows these rules to construct the Printer Features pane:

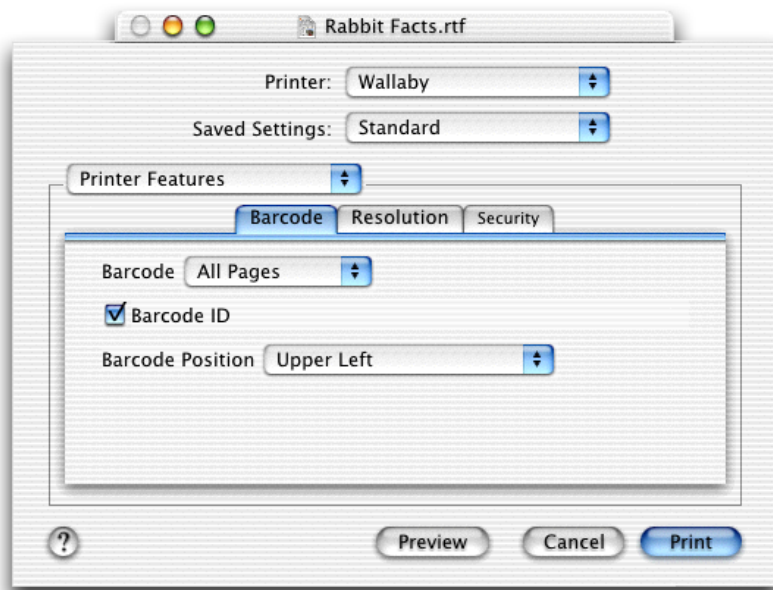
- Features are organized within the Printer Features pane under tabs, as shown in [Figure 2-1](#) (page 12). Tabs are labeled sequentially as Features 1, Features 2, and so forth, unless features are defined in groups. Then, the tabs are labelled with the group name. [Figure 2-2](#) (page 13) shows an example of tabs that are labelled with the group name specified using the `*OpenGroup/*CloseGroup` keywords.
- The interface elements (checkboxes and pop-up menus) are displayed left-justified in the tabbed pane in the order in which they are defined in the PPD file.
- No more than five features appear in a tabbed pane. If features are grouped and a group contains more than five features, new tabbed panes are created as needed. The additional tabs are labelled sequentially as Group Name 2, Group Name 3, and so forth.
- A `PickOne` list is displayed in the interface as a pop-up menu.

- A Boolean item is displayed in the interface as a checkbox. A checked item is True; an unchecked item is False.
- A Boolean item that does not have two, and only two, options one of which is True and the other False, is displayed as a pop-up menu.
- If a PickMany list is defined, it is ignored. This option is not currently supported.

Figure 1-1 A Printer Features pane in which the printing system groups the features



See [“Specifying Grouping in the Printer Features Pane”](#) (page 20) for more information on how printer vendors can use grouping keywords to control the layout of the Printer Features pane.

Figure 1-2 A Printer Features pane in which groups are specified in the PPD file

How Mac OS X Searches for and Chooses PPD Files

Mac OS X searches for a PostScript printer's PPD file when a user creates a print queue. Mac OS X automatically searches for PPD files in the appropriate localized folder. First, it looks in the `en.lproj` folder in following locations, in this order:

- `/Library/Printers/PPDs/Contents/Resources/`
- `/System/Library/Printers/PPDs/Contents/Resources/`

If it finds a PPD file for the printer in the `en.lproj` folder, it then looks for the localized PPD file in the language folder for the currently active language. See ["Installing PPD Files"](#) (page 15) for information on localized folders.

Note: The active language is the preferred language of the user who created the print queue. If the preferred language is changed, the language of the print queue does not change unless the queue is deleted and then created again.

If Mac OS X doesn't find a PPD file for a PostScript printer in either location, it looks in the Classic System Folder, provided the Classic environment has been run once or the Classic System Folder has been selected at least once in the Startup Disk pane of System Preferences. In other words, Mac OS X must know of the existence of the Classic System Folder.

`:System Folder:Extensions:Printer Descriptions:`

Choosing a PPD File

When a user adds a PostScript printer that's connected through a bi-directional connection such as AppleTalk or USB, she can choose Auto Select, a printer model from the Printer Model pop-up menu, or Other. A user who chooses Other can select a PPD file that's in a nonstandard location.

If a user chooses Auto Select, Mac OS X makes the selection by matching the value of the PPD's `*Product` keyword with the name returned by sending the printer a query. For example, a PPD file that contains this keyword and value.

```
*Product: "(LaserWriter 8500)"
```

identifies the printer model LaserWriter 8500. This must match the value of the `*Product` keyword returned from the printer in response to a PostScript query.

Users must select the PPD file for a line printer remote (lpr) printer from a pop-up menu. For best results, they should select the PPD file that's provided specifically for that printer.

Note: The protocol lpr/lpd is a platform-independent printing protocol that runs over TCP/IP. Line printer remote (lpr) refers to the process that sends a print job to a printer or a print queue. Line printer daemon (lpd) refers to the process that accepts print jobs from the lpr client. For more information, see Request for Comment (RFC) 1179.

Searching for PPD Files in the Classic Environment

If an application is running in the Classic environment, the LaserWriter 8 driver looks for PPD files in the Classic System Folder:

```
:System Folder:Extensions:Printer Descriptions:
```

Note: If a PPD file for a printer isn't found in the Classic System Folder, the LaserWriter 8 driver does not look in the Mac OS X PPD file locations.

PPD Files Tasks

This chapter describes the most common tasks printer vendors need to do with PPD files:

- “Installing PPD Files” (page 15). Make sure your PPD file is installed in the right place; otherwise Mac OS X won’t find it.
- “Creating a Localized PPD File” (page 17). Find out what you need to do to the contents of a PPD file to customize it for your worldwide users.
- “Specifying Grouping in the Printer Features Pane” (page 20). Control the grouping of nonstandard features in the generic interface Mac OS X creates for your printer’s features.
- “Adding PPD Keywords to a PDE’s Information Property List” (page 21). Assure that features you want to appear in your custom printing dialog extension don’t show up in the Printer Features pane.
- “Changing PPD and PDE File Binding” (page 23). Find out what to tell your users to do when they want to change the preferred language after PPD and PDE files are bound.

Installing PPD Files

Unlike earlier versions of the Mac OS, Mac OS X requires you to install the PPD files for a printer in localized folders. You must install a PPD file in the `en.lproj` folder, as the printing system uses the PPD files in this folder to determine which printers are supported.

Note: If you don’t install a PPD file in the `en.lproj` folder, a PPD file is not available automatically for that printer.

Apple recommends you provide localized PPD files according to the following priority groups:

- Required: English
- Priority 1: French, German, and Japanese
- Priority 2: Dutch, Italian, and Spanish
- Priority 3: Brazilian Portuguese, Simplified Chinese, Korean, Traditional Chinese, Danish, Finnish, Norwegian, and Swedish

A localized PPD file should be installed into the folder appropriate for the language of the localized file. The naming convention for localized folders is the same as that used for localized bundle resources in Mac OS X. Folders are named with an ISO 639 language code and an `.lproj` suffix. For example, PPD files localized for English and Korean should be in folders named `en.lproj` and `ko.lproj`. [Table 3-1](#) (page 16) lists the ISO 639 codes for the Apple-recommended languages. You can find a complete list of ISO 639 country codes at this website:

<http://etext.lib.virginia.edu/tei/iso639.html>

If you provide a PPD file for a local variation of a language, such as Canadian French or Swiss German, you can use the ISO 3166 codes, as the ISO 639 codes do not differentiate between local variants.

Note: Prior to Mac OS X version 10.1, the naming convention for some localized folders was to use the full English name of a language with the `.lproj` suffix. These folder names are now deprecated; you should not use them. [Table 3-1](#) (page 16) lists the deprecated folder names associated with a language.

Table 2-1 ISO 639 language codes, languages, and Mac OS X deprecated folder names

Code	Language	Deprecated Folder Name
en	Universal English	English.lproj
en_US	US English	
fr	French	French.lproj
de	German	German.lproj
ja	Japanese	Japanese.lproj
nl	Dutch	Dutch.lproj
it	Italian	Italian.lproj
es	Spanish	Spanish.lproj
pt	Portuguese	Portuguese.lproj
zh_TW	Simplified Chinese	
ko	Korean	
zh_CN	Traditional Chinese	
da	Danish	Danish.lproj
fi	Finnish	
no	Norwegian	
sv	Swedish	Swedish.lproj

Installation Path

PPD files for all printer manufacturers should be installed in the following location, in the appropriate localized folders:

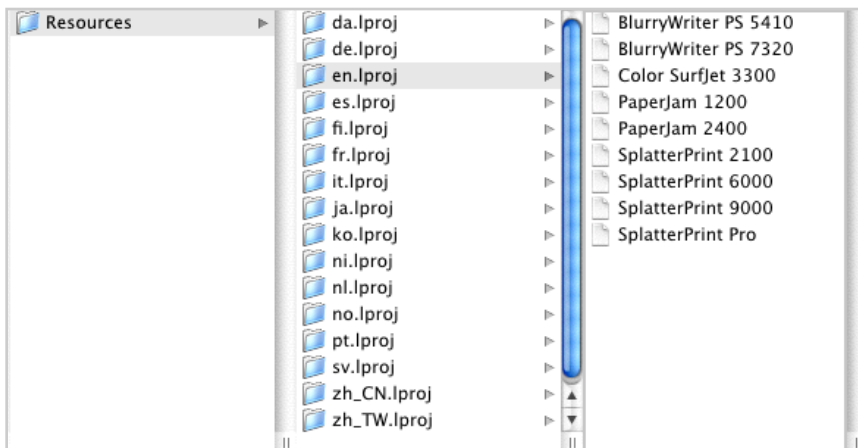
- `/Library/Printers/PPDs/Contents/Resources/`

Each PPD file should have its privileges set to Read Only for Owner, Group, and Everyone.

All localized third-party PPD files, regardless of printer manufacturer, must be installed in the same localized folder, as shown in [Figure 3-1](#) (page 17). When you install a localized PPD file, you should first check to see if the appropriate language folder exists. If it does not, you must create the folder in this directory:

- /Library/Printers/PPDs/Contents/Resources/

Figure 2-1 A PPD file must be installed the en.lproj folder



When Mac OS X searches for a PPD file, it looks in the locations specified in [“How Mac OS X Searches for and Chooses PPD Files”](#) (page 13). If there is more than one localized PPD file installed for a printer, Mac OS X chooses one, and it does so without user interaction.

Note: In Mac OS X, do not install your PPD files in the /System path. This path is reserved for PPD files for Apple brand printers: /System/Library/Printers/PPDs/Contents/Resources/

Support for Printing in the Classic Environment

The LaserWriter 8 driver does not access PPD files installed in Mac OS X directories. If you also need to provide a PPD file for use with applications that run in the Classic environment, you should install the file in the Mac OS 9 System Folder:

- System Folder:Extensions:Printer Descriptions:

Note: If there is more than one PPD file for a printer installed for use in the Classic environment, Mac OS asks the user to choose between PPD files.

Creating a Localized PPD File

There are two things you need to do to create a localized version of a PPD file:

- specify the character encoding and language

- translate strings that are displayed in the user interface

One value you do not need to localize is `*DefaultPageSize`, as Mac OS X does not use this value. The printing system sets a default paper size across a user's set of printers, rather than on a printer by printer basis.

Specifying the Encoding and Language

You need to specify the encoding and language in the PPD file by using the `*LanguageEncoding` and `*LanguageVersion` keywords. The encoding is used by the system to convert text strings from the encoding used in the PPD file to that currently in use on the computer. The conversion is done when the printer queue is created, using the language of the user at that time.

For most Roman languages, the supported `encodingOption` value for the `*LanguageEncoding` keyword is `ISOLatin1`. The most common encodings are listed in [Table 3-2](#) (page 18). For more information see *PostScript Printer Description File Format Specification*. If you specify an encoding that Apple doesn't support, `MacRoman` is used.

Table 2-2 Encoding option values

Values	Encoding
<code>ISOLatin1</code>	Uses the <code>ISOLatin1</code> encoding
<code>MacStandard</code>	Uses Macintosh standard encoding
<code>JIS83-RKSJ</code>	Uses RKSJ (also known as Shift-JIS) encoding and the JIS X0208-1983 character set
<code>UTF-8</code>	Uses a form of Unicode character encoding

The `languageOption` value for the `*LanguageVersion` keyword should identify the language used in the PPD file. The encoding applies only to the translation strings, human-readable comments, and certain other values, such as the value for the optional keyword `*NickName`. For more information, see *PostScript Printer Description File Format Specification*.

Translating Strings Used in the User Interface

You should provide translations for any keywords, options, and messages that appear in the interface. The *PostScript Printer Description File Format Specification* describes the translation string syntax in detail. Although translation strings are optional according to the specification, you need to provide them to assure a good user experience for your worldwide customers.

A translation string must begin with a slash (/) and end with a colon (:) or a newline character, depending on the item for which it is a translation. The string appears after the option or message for which it is a translation.

[Listing 3-1](#) (page 19) is an excerpt from a PPD file that's localized for German. It shows the encoding string along with the items that need to be localized for a tray switching feature. An explanation for each numbered line follows the listing.

Listing 2-1 An excerpt from a PPD file that's localized for German

```

*LanguageEncoding: ISOLatin1 // 1

*OpenUI *TraySwitch/Zufuhrumschaltung: Boolean // 2
*OrderDependency: 20 AnySetup *TraySwitch
*DefaultTraySwitch: False // 3
*TraySwitch True/Ein: "1 dict dup /TraySwitch true put setpagedevice" // 4
*TraySwitch False/Aus: "1 dict dup /TraySwitch false put setpagedevice" // 5
*?TraySwitch: " // 6
    save
    currentpagedevice /TraySwitch get
    {(True)}{(False)}ifelse = flush
    restore
"
*End
*CloseUI: *TraySwitch

```

Here are the explanations for the numbered lines in [Listing 3-1](#) (page 19):

1. The language encoding is required. For German, it is `ISOLatin1`.
2. For the German version, `Zufuhrumschaltung` appears in the user interface instead of Tray Switching. Note the syntax—the translation string is delimited by a slash and a colon. It is then followed by the `*OpenUI option Boolean`.
3. You do not need to provide a translation for a keyword's default value.
4. `/Ein` is the translation string for True, and it is followed by the PostScript code to invoke that option.
5. `/Aus` is the translation string for False, and it is followed by the PostScript code to invoke that option.
6. The PostScript invocation or query code must not be translated.

Providing PPD Files for Languages Not Listed in International Preferences

When a print queue is created by a user, Mac OS X selects the localized version of a PPD file based on the user's preferred languages listed in the International pane of System Preferences. After Mac OS X finds the required PPD file in the `en.lproj` folder, it looks for an `.lproj` folder for the active language in the directories (see ["Installation Path"](#) (page 16)) in which PPD files for Mac OS X can be installed. If Mac OS X doesn't find an `.lproj` folder for the active language, it looks for a folder for the next preferred language specified by the user. If Mac OS X doesn't find a folder for that language, it continues down the list of preferred languages until it finds an `.lproj` folder.

If you provide a PPD file in a language that is not listed in the International pane of System Preferences, the PPD file is not available automatically. There are two primary reasons why a language your PPD supports might not be listed in the International pane.

- Although Apple supports a wide variety of languages, it might not provide support for all of the languages at the initial release of a product.
- The user turned off the option to install the language.

To remedy either situation, a user can do the following:

1. Open the International pane of System Preferences.
2. In the Languages pane, click Edit.
3. Click the checkbox next to the language option that's disabled but should be enabled. Then click OK.
4. Drag the language to the top of the Languages list.

Note: If the user changes the preferred language after a print queue is created, the user must delete and then recreate the print queue for the language change to take effect.

Specifying Grouping in the Printer Features Pane

In Mac OS X version 10.1 and later, printer vendors can use grouping keywords in a PPD file to specify how features should be grouped in the Printer Features pane. As described in “[The Printer Features Pane in the Print Dialog](#)” (page 11), the features you can group are limited to Boolean items and lists in which only one option can be selected at time. This section shows you how to specify a group that has two features: a pop-up menu (`PickOne`) for `FoldType` and a checkbox `Boolean` for `Banner Sheet`.

[Listing 3-2](#) (page 20) is an excerpt from a PPD file. Note that some of the lines in the listing are numbered. An explanation for each numbered line follows the listing.

Listing 2-2 Specifying a group of Finishing features in a PPD file

```
*OpenGroup: Finishing/Finishing Options // 1
*OpenUI *FoldType/Fold Type: PickOne // 2
*DefaultFoldType: None // 3
*FoldType Fan/Fan: "% postscript code to invoke Fan fold " // 4
*FoldType Saddle/Saddle: "% postscript code to invoke Saddle fold "
*FoldType Wing/Wing: "% postscript code to invoke Wing fold "
*FoldType None/None: "% postscript code to invoke no fold "
*CloseUI: *FoldType // 5

*OpenUI *BannerSheet/Banner Sheet: Boolean // 6
*DefaultBannerSheet False: // 7
*BannerSheet True/True: "% postscript code to invoke a banner sheet " // 8
*BannerSheet False/False: "% postscript code to turn off a banner sheet "
*CloseUI: *BannerSheet // 9

*CloseGroup: Finishing // 10
```

Here are the explanations for the numbered lines in [Listing 3-2](#) (page 20):

1. When you define a group, the `*OpenGroup` keyword must be at the start of the group of features. The translation string value `Finishing Options` is the group's name. This appears as the tab name in the Printer Features pane.

2. The `*OpenUI` keyword must be at the start of any feature that appears in the user interface. The option `*FoldType` is the feature name. The string value after the slash (/)—`Fold Type`—is the translation string; it's the text label that appears for that feature in the user interface. The option `PickOne` specifies a list of options from which only one can be selected. It is represented as a pop-up menu in the user interface.
3. The keyword `*DefaultFoldType` specifies the required default value, which in this case is the string value `None`. This is the option that's selected when the user opens the Printer Features panel.
4. This line, and the other lines that begin with the keyword `*FoldType`, specifies an option that appears in the `Fold Type` pop-up menu. `*FoldType` must be followed by a string value; in this case, it is `Fan`. The translation string—`Fan`—appears after the slash. The translation string must be followed by the PostScript code that invokes this feature in the printer.
5. The `*CloseUI` keyword must be at the end of any feature that's defined with the `*OpenUI` keyword. It must be followed by the main keyword for the feature name.
6. This line defines a `Boolean` feature. `*BannerSheet` is the feature name and the translation string `Banner Sheet` is the text label that appears in the user interface.
7. The keyword `*DefaultBannerSheet` specifies the required default value, which in this case is the Boolean value `False`.
8. This line and the next are very important for a Boolean feature. A Boolean feature must define two, and only two options. One must provide the value `True`, and the other must provide the value `False`. Each option must supply the PostScript code to invoke the feature associated with the option in the printer.
9. The `*OpenUI` keyword must be paired with `*CloseUI` keyword. Don't forget to supply the main keyword for the feature name.
10. The keyword `*CloseGroup` specifies the end of a group. The string value `Finishing` indicates it is the end of the `Finishing` features.

The *PostScript Printer Description File Format Specification* document contains additional details on the syntax needed to specify groups and options, as well as information on adding code that's invoked when an option is selected.

Note: You'll need to translate the group and feature names when you create localized versions of the PPD file. See [“Creating a Localized PPD File”](#) (page 17) for more information.

Adding PPD Keywords to a PDE's Information Property List

A printing dialog extension (PDE) is a powerful and flexible way to extend the Print dialog in Mac OS X. It lets you use any of the system services to draw, animate, or otherwise render a pane in the Print dialog to create a custom user interface for specific features. You can find details for writing a PDE in *Inside Mac OS X: Extending Printing Dialogs*. The purpose of this section is to show you how to register PPD keywords that are supported by your custom printing dialog extension. If you don't register the PPD keywords, the features associated with the keywords appear in the Printer Features pane.

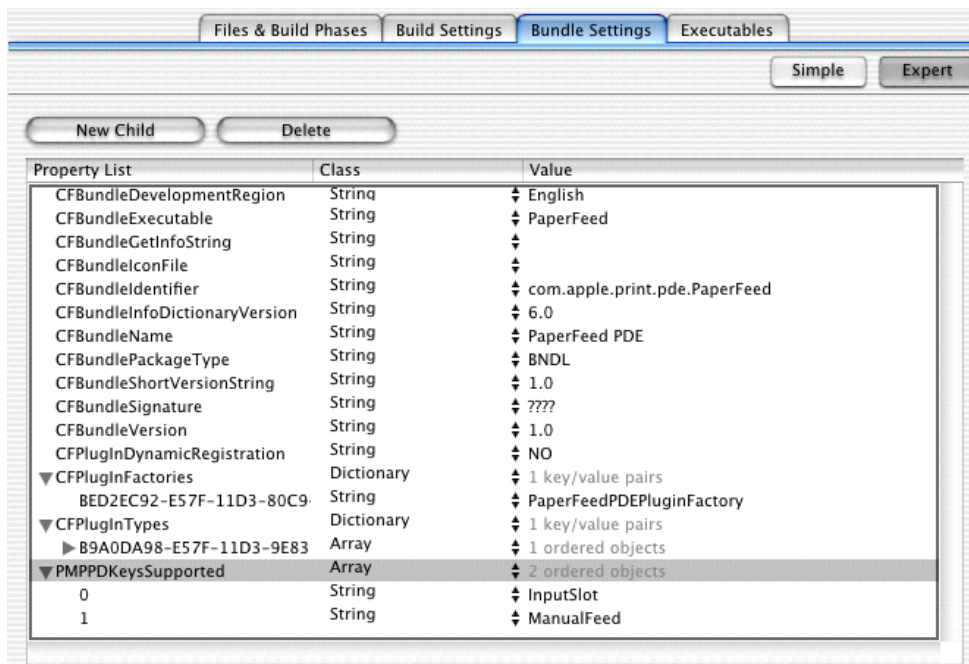
You add the supported PPD keywords to the PDE's information property list in Project Builder, when you are writing the PDE. When the finished PDE is loaded for a specific printer, the Mac OS X printing system (specifically, the Printer Features printing dialog extension provided by Apple) checks the information property list. Features corresponding to PPD keywords that are included in the information property list are not displayed in the Printer Features panes. Instead, the features on the PDE's property list are displayed in the pane created by your PDE.

You should make sure keywords are unique with respect to the printer. Conflicts between PDEs that support the same keyword are not detected by the printing system. You should also make sure your PDE loads only for the specific printer for which it is intended. If every PDE loads only for the proper printer then there won't be multiple PDEs trying to handle the same feature for a given printer.

Note: The information property list contains key-value pairs that specify the PDE's properties that are of interest to the system software (for example, CFPlugIn, the printing system, etc.) and other applications. Although the information property list is a text file that uses XML (Extensible Markup Language) format, you should not modify the XML directly unless you are very familiar with XML syntax. Instead, use Project Builder or the Property List Editor application provided with Mac OS X to modify the information property list.

Figure 3-2 (page 22) shows an information property list as it appears in Property List Editor. It is a property list for a PDE that supports two paper feed options for a PostScript printer—input slot and manual feed. The property `PMPPDKeysSupported` is an array with two string values, `InputSlot` and `ManualFeed`. The PPD for the printer should contain the media selection keywords `*InputSlot` and `*ManualFeed`.

Figure 2-2 An information property list for a PDE that supports paper-feed features



To add PPD keywords to the property list for a PDE, do the following:

1. Open the PDE project in Project Builder.
2. Click the name of the PDE target in the Targets list, then click the Bundle Settings tab.

3. Click the Expert button, then click New Sibling.
4. Type `PMPPDKeysSupported` in the Property List column.
The search for this keyword is case-sensitive, so make sure the case is correct.
5. Choose Array from the Class pop-up menu.
6. Click the disclosure triangle next to `PMPPDKeysSupported`, then click the New Child button.
When you click the disclosure triangle, the New Sibling button changes to New Child.
7. Double-click the text box in the Value column, type the PPD keyword, then make sure its Class is set to String.
For example, if the PPD keyword is `*InputSlot`, type `InputSlot`.
8. For each additional PPD keyword, add another child to the `PMPPDKeysSupported` property, then repeat Step 7.

Testing the PDE

To make sure you added the keywords properly, do the following:

1. Build the project.
2. Open a document in any application, then choose Print from the File menu.
3. Look at the items in the pop-up menu.

If there is a Printer Features menu item in the Print dialog, make sure the features you expect to be in the pane provided by your PDE are not also in the Printer Features pane. Then, make sure the pane provided by your PDE is listed as an item in the pop-up menu.

Changing PPD and PDE File Binding

A PPD file and printing dialog extension for a printer are bound to a printer queue when the queue is created. When the operating system determines the language and encoding of the PPD file, it parses the file, and then saves the PPD for use by the printing system. If the PPD file is changed after the printer queue is created, the changes in the PPD file are not reflected in the Print dialog unless the user deletes and then recreates the printer queue.

Similarly, if the user changes the preferred language, the change is not reflected in the Print dialog associated with a printer queue that's already setup. The user must delete and recreate the printer queue for the language change to take effect.

Document Revision History

This table describes the changes to *Using PostScript Printer Description Files*.

Date	Notes
2005-07-07	Corrected a typographical error.
2003-12-10	Updated the hyperlinks to the Adobe partner website.
2003-02-01	Updated formatting to improve appearance and searching capability.
2002-03-01	Minor revision. Removed screenshots and detailed information on the panes in the Print dialog. This information is now covered in detail in <i>Inside Mac OS X: About the Mac OS X Printing System</i> . Also fixed several typographical errors.
2001-08-01	First version of this document.

REVISION HISTORY

Document Revision History