

Tru64 UNIX Best Practice

Configuring an Unsupported Third Party Printer

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This Best Practice provides general guidelines for adding an unsupported third party printer to your Tru64 UNIX system.

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Configuring an Unsupported Third Party Printer

This best practice suggests a method for configuring and using unsupported Adobe PostScript Printer Description (PPD) printers on Tru64 UNIX. An unsupported printer is one that is not listed in the `lprsetup.dat(4)` reference page and for which no printer configuration files ship with the operating system.

Unsupported printers are not guaranteed to work with Tru64 UNIX, if they do work you might not be able to use all available print features. However, if the printer and its PPD files adhere closely to the PPD standard, there is a strong possibility that the printer will function as intended by its manufacturer.

As this Best Practice describes an unsupported configuration there are no alternatives suggested and Compaq cannot provide additional troubleshooting or support information.

See the Tru64 UNIX Best Practices Web page for more information about Best Practices documentation.

Is This Best Practice Right for You?

Not all Best Practices apply to all configurations, so you must be sure that it is appropriate for your system and circumstances. To use this Best Practice, you must meet the requirements described in the following table:

Requirement	Description
Operating System	Tru64 UNIX Version 5.1 and higher. The <code>ppdof</code> print filter must be available on the system.
System Configuration	The system must support the physical connection of the printer device, which is not described in this best practice.

Requirement	Description
Impact on Availability	Adding hardware of this type might require a system shutdown depending on the connection method. For example, a local printer on the printer port should be connected only during a shut down. A networked printer can be added to the network at any time.
User Prerequisites	You must be an experienced operator (power user) with root login privilege or DOP privileges that enable you to access the required system files.

Before You Begin

Tru64 UNIX provides support for a large number of printers other than those supplied by Compaq. This list of printers is constantly revised and is defined in the `lprsetup.dat(4)` reference page. A generic print filter is also provided, making it possible for you to experiment with unsupported printers. An unsupported printer is any printer that meets the general requirements for installation such as an appropriate hardware interface.

The generic `ppdof` print filter provided in Tru64 UNIX extracts information from files conforming to the Adobe PostScript Printer Description (PPD) file format. PPD files are provided by the printer vendor and contain printer-specific information such as options enabling you to select paper trays. If the printer vendor has created a PPD file for your printer it might be available in one of the following ways:

- Shipped with the print drivers included on Microsoft Windows compatible media, such as a CD-ROM or floppy diskette.
- Available for download from the printer vendor's web site. Use a web search on your printer model with the key term `ppd` to search for PPD files.

Before you apply the this Best Practice, you might need to perform the following preliminary tasks:

Task	Prerequisite
Printer installation	Install the printer as documented in the owner's manual. Refer to the <i>System Administration</i> guide for your release of the operating system for general guidelines on printer installation, such as connecting the printer to a port.
Obtain a <code>ppd</code> file	This may be supplied on a floppy diskette, on a CD-ROM, or downloadable from the printer manufacturer's web page.

Commands Used in this Procedure

You might need to refer to the following reference pages:

- The `ports(7)` reference page describes the physical communication ports on the rear of a system box, and their logical representation in the operating system (`ttyNN`).
- The `mttools(1)` and `dxmttools(1)` reference pages describe utilities for manipulating DOS files.

Applying the Best Practice

Before you attempt to configure a third party printer, be sure to follow the recommendations in *Before You Begin*.

The following procedure suggests a method for testing unsupported printers and configuring them for use on a system running Tru64 UNIX:

1. Convert the `ppd` file to a format that you can use on your Tru64 UNIX system. If the PPD file is a Microsoft Windows or DOS text file on a floppy disk or ISO-9660 CD-ROM you might be able to load the media directly into your Alpha system. Use the `/usr/ucb/mttools/*` or `/usr/bin/X11/dxmttools` graphical user interface to copy and convert the PPD file to UNIX format.

If the PPD file is packed in an archive, you might need to use the following methods and utilities:

- a. Unpack the PPD archive.

If a PC is linked to your Tru64 UNIX system, such as in an Available Server Environment (ASU) configuration, use the PC to unpack (unzip) the PPD archive. Otherwise, try the `gunzip` command on the Tru64 UNIX system. Often, the PPD file is included in a PC `*.exe` self extracting zip file and you must use a PC.

- b. Position the PPD file on the UNIX system.

If you had to unpack the archive on a PC, move the unpacked archive to a Tru64 UNIX system using whatever file transfer capabilities are configured locally. This can be a direct file copy using ASU, an `ftp` connection, or a `kermit` transfer by dial-up modem.

- c. Other PPD files might be provided in the media kit. Use the following command to associate a PPD file to a specific printer model:

```
# grep "^*modelName" *.ppd
```

The output from this command appears as follows:

```
cp1n32_1.ppd:*modelName: "Compaq Laser Printer LN32"  
dc5100_1.ppd:*modelName: "Digital DEClaser 5100"
```

- d. Convert the line endings to UNIX format.

When you move the PPD file to the UNIX system it must be formatted for UNIX use. PPD files are text files. If you edit such a file you will see carriage return characters at the end of each line because the file is in a PC file format. To convert the file to a UNIX format use the following command to delete the carriage return characters from the file:

```
# cat file.ppd | tr -d '\r' > new_file.ppd
```

Inspect the resulting file using the vi editor. Under rare circumstances, the file might still be incorrect if there were no line feed characters in the original file.

2. Name the file using the printer name and the .ppd file extension. For example, hyperjet.ppd.

Copy the file to the /usr/lbin/ppd directory and set the protection to 644. For example:

```
# cp hyperjet.ppd /usr/lbin/ppd  
# chmod 644 /usr/lbin/ppd/hyperjet.ppd
```

3. Use the lprsetup command or the printconfig graphical user interface to create an /etc/printcap file entry, specifying the ln32 printer. This will create a template entry for your new printer that points to the required ppdof print filter.
4. Edit the printcap entry to remove the text ln32.rpd, and replace it with the file name for your new printer. The final entry should look similar to the following:

```
:if=/usr/lbin/ppdof +OPageSize=Letter +Chyperjet.ppd:\  
:of=/usr/lbin/ppdof +OPageSize=Letter +Chyperjet.ppd:\
```

Verifying Success

After you apply the Best Practice for Configuring a Third Party Printer, you can verify whether it was successful as follows:

1. Determine which print options are available by using the following command:

```
# lpr -Pqueue -OPrint /etc/motd
```

This command prints the options provided by the PPD file. The `/etc/motd` file is discarded.

2. Print a file using the print command options returned by the `-OPrint` option in *Step 1*. For example, if the returned print options include an option named `lower` to specify the lower paper feed tray, you can test this using the following command:

```
# lpr -Pqueue -Ilower /etc/motd
```

Refer to the `ppdof(8)` reference page for information on using the printer options.

If the Best Practice was not successful, see *Troubleshooting* for information about identifying and solving problems.

Troubleshooting

If you determine that the Best Practice was not successful, as described in *Verifying Success*, use the following table to identify and solve problems:

Problem	Possible Solutions
After Step 1, the PPD file still does not have the correct UNIX format.	Under rare circumstances, the file might still be incorrect if there were no line feed characters in the original file. You can also configure and use the <code>mttools</code> command-line utilities to manipulate DOS-format files. A graphical utility, <code>dxmttools</code> is provided for use under the Common Desktop Environment (CDE). This set of utilities enables you to move files between a PC and a UNIX system, and to convert the line endings using the <code>dos2unix</code> command.
Verify the file protection of the PPD file.	The file <code>/usr/lbin/ppd/printer.ppd</code> must have world read access.

Problem	Possible Solutions
Check the log file specified in the <code>/etc/printcap</code> file entry.	View the error log file specified in the <code>printcap</code> entry. The log file is specified as <code>:lf=/var/adm/file</code> and contains error information generated by the print filter.
Check the <code>/etc/printcap</code> file entry.	Verify that no spaces or tab characters exist after the item <code>+Cprinter.ppd\</code> . The backslash line continuation character must be the last character on the line.

This best practice is intended only to assist you in using unsupported printers, Compaq is unable to provide further troubleshooting information or technical support.

Comments and Questions

We value your comments and questions on the information in this document. Please mail your comments to us at this address:

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