Troubleshooting PostScript Errors

Introduction

When images and publications do not print as expected or do not print at all due to a PostScript error, there can be a variety reasons. For example, the publication may be unnecessarily complex, composed with corrupt data or even contain a poorly constructed font. Here are some suggestions to help minimize the chance of having problems with printing your files. Also included are some techniques used by industry experts to troubleshoot PostScript errors.

What causes a PostScript error?

PostScript is a programming language used to describe pages to be printed. In general, PostScript errors occur when the PostScript interpreter cannot continue to process an image due to some problem in the file. The interpreter may not recognize a specific Post-Script command, or the PostScript command may exceed some limit of the interpreter.

What is a PostScript error message?

There are two parts to a PostScript error message: the error and the offending command. Although they vary slightly among the different printer families (or different Post-Script interpreters), PostScript errors generally look something like the following:

Error: [error name]; OffendingCommand: [bad command].

The information in the error message tells you what the PostScript error is (the error name) and what PostScript command caused it (the offending command).

Note: If you are printing to a Legacy ColorMark Server, you can obtain PostScript error information by opening the tracking log record for the job, and selecting 'PS Output.'

Steps to Take After Finding the PostScript Error

Having a printout of the PostScript error can help isolate which portion of the publication contains the offending object. It could be anything from a corrupted graphic to a complex clipping path to a damaged font. Generally speaking, the more complex an element is, the more likely it is to be the source of the problem. Your choice of output devices may affect whether or not a file will print. Since implementation limits vary from output device to output device, the potential for PostScript errors also varies: a laser printer that prints in shades of gray may not report an error that is reported on a more demanding color output device.

Isolating the Source of the Error

There's no magical way to tell which component of a document is causing the problem; however, there are elements that are more likely to result in problems with ALL Post-Script interpreters. This fax also will explain some errors and reasons for the errors to occur. The following is a list of common troublemakers for all PostScript interpreters:

a. Nested EPS images, i.e, placing one EPS image on top of another and then saving both as an EPS.
b. Complex clipping paths such as a mask for a graphic.
c. Fonts of questionable quality or fonts that have been converted from some other format
d. Color gradations
e. Blends with a large number of steps
f. Images that are rotated after being placed in a publication, especially when combined with elements from above
g. Many different fonts on the same page
h. Vector artwork with numerous points in its curves
i. Complex fill patterns

Note: To locate the problem element, print out each of the file's elements individually; or, remove one component at a time until the file prints without errors. Warning: It's advisable to make a backup copy of files before troubleshooting documents.

Steps to Take Once the Error is Known

Once the offending element in a file has been established, the steps you take to eliminate or work around the problem depend on the type of error message received. With the error message and offending element identified, look through the following list of common PostScript errors and Offending Commands for the possible solutions for dealing with the error:

Common PostScript Errors and Possible Solutions

Error: dictfull Something new is trying to be defined or stored (saved) in a PostScript dictionary, but there's no more room available. Explanation: The dictionary is being mismanaged. This may indicate a corrupted file, or possibly a damaged font.

Error: fatal system error Explanation: The printer is out of memory and the PostScript interpreter has failed. Restart the RIP (Raster Image Processor) or Print Server and try printing again. The number that may follow the error is a memory location in the RIP and is usually not useful in finding a solution to the problem.

Error: invalidaccess Explanation: Something caused the program to write bad PostScript. For example, the code is trying to write into a read-only element. May be due to an imported graphic.

Error: invalidfont Explanation: Something about a font was rejected by the PostScript interpreter. A font is probably damaged. Try using a different font, or re-install the one that caused the problem.

Error: invalidrestore Explanation: Something caused the program to generate bad PostScript code. In this case, executing a restore command would cause something currently on one of the stacks to be lost. This may be due to an imported graphic or data corruption.

Error: ioerror Explanation: This error is usually caused by bad data transmission. Check cables and connections. Disk errors are another possibility.

Error: limitcheck Some kind of limit has been exceeded. This error usually means that a path contains too many points for the RIP to render. It might be caused by a polygon or curve with many points, a masked graphic, or an EPS graphic containing a path that is too large.

Explanation: Usually caused by overly complex paths - such as those generated by an autotrace feature - a lack of printer memory can also cause this error. Increasing the flatness limit will improve printing chances. In some drawing applications, the flatness limit of the entire image can be changed (usually in the Page Setup dialog). You could also try to edit the graphic in the program that created it (i.e. "splitting paths" in Adobe Illustrator). A printer lays out a page according to a grid and by using only straight lines along the grid. Therefore, in order to draw a curved line, a RIP must render a series of straight lines that emulate a curve. The more the RIP breaks the curve down, the more straight lines are involved, and the better the curve looks, especially at higher resolution. However, "more lines" means more memory is needed in the RIP to render the image. If you are using a ColorMark Legacy Print Server, try increasing the virtual memory (choose "Configure" under the RIP icon) from its default of 5 megs to 7 megs. There should never be a time when increasing the VM (virtual memory) above 8 megs would have a benefit, though you can increase the setting to as high as 20 megs. Keep in mind that larger VM settings can increase RIP time.

Note: Changing the flatness limit may change the visual appearance of the file.

Error: nocurrentpoint Explanation:The PostScript interpreter needs a current point, but a path doesn't have one. Check very small paths in your illustration.

Error: rangecheck This error occurs when the RIP cannot recognize the custom paper selected in the Page Setup dialog box. Explanation: On a Macintosh, choose Page Setup from the File menu and specify a paper size that the printer will accept. Keep in mind that the total of the Offset and Width amounts cannot exceed the width of the media on which you are printing. Be careful not to reverse the width and height measurements.

Error: stackoverflow

Explanation: A PostScript object stack contains too many objects. It's difficult to find the cause of this. Knowing the offending command probably won't help. Isolate the offending elements in your file and remove them. It could also be a memory problem, data corruption, or a communication error.

Error: stackunderflow   Explanation: An expected PostScript operator isn't on the stack. It's difficult to find the cause of this error. As with stackoverflow errors, knowing the offending command probably won't help. Isolate offending elements in your file and remove them. It also possibly could be a memory problem, data corruption, or a communication error.

Error: syntaxerror   Explanation: The program didn't generate the PostScript code correctly, or illegal characters were used in the code. Someone familiar with PostScript coding could check for illegal characters in fi le names, as well as in any custom PostScript effects. Other common causes are mismatched brackets in the code or data corruption.

Error: Timeout - input stops before job finished   This error message appears when the RIP's time limit for receiving data is exceeded, which is usually the result of an error-prone network or faulty network connectors.   Explanation: Check your network connectors. If this is a frequent error for you, you need to have a qualified person check your network and make necessary adjustments. Large TIFF, PICT, and EPS graphics can cause this error. Complex fill patterns or complex type effects can also cause this error. Also, try ungrouping large or nested groups.

Error: typecheck   Explanation: Somewhere in the PostScript code, an operator is of the wrong type. Isolate offending elements in your file and remove. Possible memory problem, data corruption, or communication error. "Typecheck" does not necessarily mean "type" as in "text" or "font."

Error: undefined   Explanation: The PostScript code is trying to use a procedure that it can't find. This error is usually the result of a corrupted EPS file that contains a PostScript command that is not defined. Delete or replace the corrupt graphic, or try to place the graphic into the file again. A printer prep file may be missing or not found. Possible corruption or communication error.

Error: vmerror   Explanation: The memory within your PostScript RIP or other output device has been exhausted. This is often the result of using too many fonts within the same document. Or, it could be caused by an EPS file that takes up too much memory. The offending command tells you where processing stopped and memory ran out.

- a. Restrict the number of fonts in your document. For example, if you are using seven fonts, reduce the number to 3 or 4 if possible. Also, remember that when you specify a font attribute, such as italic or bold or bold italic, you are sending another font.
- b. If you routinely get this error, increase the virtual memory on the print server to 7 or 8 megs. Rarely would you need to increase this setting above 8 megs, though it can be increased to as high as 20 megs. Keep in mind that a higher VM setting can increase RIP times. The default is 5 megs.

Offending Commands and Possible Solutions

Offending Command: ashow   Check: Kerned text, custom letter and word spacing, baseline shifted text and superscript/subscript text. May also indicate a bad or corrupt font

Offending Command: awidthshow   Check: Text justification, baseline shifted text, and superscript/subscript text. It could also be a damaged font.

Offending Command: clip, eoclip

Check: Graduated or radial fills, clipping paths (masks), text effects, complex autotraced paths and any text that has been converted to paths

Offending Command: curveto

Check: Complexity of curves

Offending Command: def

Check: This may be difficult to isolate. Check printer fonts, RIP memory, and imported EPS files

Offending Command: dict   Check: Printer fonts and RIP memory. Try increasing the ACS VM setting a couple of megabytes and restart the ACS.

Offending Command: fill, eofill   Check: Paths with lots of curves or points, complex autotraced paths, complex paths drawn with a pressure-sensitive tool, and composite paths

Offending Command: fl xproc   Check: Printer outline font could be corrupt

Offending Command: framedevice   Check: RIP memory

Offending Command: get   Check: Imported graphics

Offending Command: image   Check: Scanned or paint images

Offending Command: imagemask   Check: One-bit scanned or paint image, as well as bitmap fonts

Offending Command: itransform   Check: Very small elements in your illustration

Offending Command: kshow   Check: Kerned text, as well as kerning pairs

Offending Command: lineto   Check: Paths with lots of points, converted PICT's, and complex paths

Offending Command: makefont   Check: Text effects as well as scaled, skewed, rotated, or mirrored text

Offending Command: md   Check: LaserPrep was not downloaded to RIP

Offending Command: nostringval   Check: Similar to a typecheck error. Indicates object is of the wrong type. Isolate offending element, then remove or replace.

Offending Command: stroke   Check: Complex paths with lots of points, complex fi lls and outline strokes, converted PICT's

Offending Command: widthshow   Check: Justifi ed text, custom letter and word spacing, baseline shifted text, superscript/subscript text. May also indicate a corrupt font

Tips & Tricks

The following are a few extra items that may help correct PostScript errors.

1. If you are using the LaserWriter 8 on the Macintosh, try using LaserWriter 8.2.2, or LaserWriter 7.1.2.

2. Turn off Print Manager (in Windows) or Background Printing (In the Mac Chooser).

3. Avoid using low-quality fonts from a non-reputable vendor. The money saved in buying these fonts may be more than offset in headaches in getting them to print.

4. Vector Graphics: Programs such as Adobe Illustrator and Macromedia Freehand can create vector graphics, often referred to as EPS files. Avoid nesting of EPS graphics, that is, an EPS placed in a file, with added art, and then exported as an EPS again, then finally placed in a page layout. Nested EPS files can often cause printing problems.

5. If you are printing from Windows, make sure that your WIN.INI isn't nearing the 64k size limitation. An excessive number of fonts and/or numbers port configurations can cause the WIN.INI to swell past 64k easily.

6. Try deleting and re-installing the PostScript driver using the ColorSpan Printing Tools disk or System Software Disks. Make sure that the most recent version of the driver is being installed.

Conclusion

If you have other hints, suggestions or questions regarding this topic, please fax them to the HP Technical Support team at fax number 612-943-3611.

Sources and Additional Reading Suggestions

PostScript Language Reference Manual - Addison-Wesley Publishing Company, Inc., Reading, MA.1990.

This 765 page book is commonly sold for about $30.00 in the USA.

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