PostScript is a computer language — more precisely, a page description language — that is run in an interpreter to generate an image. This process requires a fair amount of resources.

PDF is a subset of those PostScript language elements that define the graphics, and only requires a very simple interpreter. For instance, flow control commands like `if` and `loop` are removed, while graphics commands such as `lineto` remain.

That means that the process of turning PDF back into a graphic is a matter of simply reading the description, rather than running a program in the PostScript interpreter. However, the entire PostScript world in terms of fonts, layout and measurement remains intact.

Often, the PostScript-like PDF code is generated from a source PostScript file. The graphics commands that are output by the PostScript code are collected and tokenized; any files, graphics or fonts the document references are also collected; and finally everything is compressed into a single file.

As a document format, PDF has several advantages over PostScript. One is that a document resides in a single file, whereas the same document in PostScript may span multiple files (graphics, etc.) and probably occupies more space. In addition, PDF contains already-interpreted results of the PostScript source code, so it is less computation-intensive and faster to open, and there is a more direct correspondence between changes to items in the PDF page description and changes to the resulting appearance of the page. Also, PDF (starting from version 1.4) supports true object transparency while PostScript does not. Finally, if displayed with Adobe Reader, a font-substitution strategy ensures the document will be readable even if the end-user does not have the "proper" fonts installed. PDF also allows font embedding to ensure that the "proper" fonts are displayed. While this is possible with PostScript, such files cannot normally be distributed freely because of font licensing agreements.

[edit]

History

When PDF first came out, in the early 1990s, it was slow to catch on. At the time, not only did the only PDF creation tools of the time (Acrobat) cost money, but so did the software to view and print PDF files. Early versions of the PDF format had no support for external hyperlinks, reducing its usefulness on the web. Additionally, there were competing formats such as Envoy, Common Ground Digital Paper, DjVu and even Adobe's own PostScript file format (.ps). Adobe started distributing the Acrobat Reader program at no cost, and continued to support PDF through its slow multi-year ramp-up. Competing formats eventually died out, and PDF became a well-accepted standard.

In 2005 Microsoft presented a competing format referenced by the code name "Metro". It is developed together with Global Graphics. Metro is based on XML, but requires a license. Metro is scheduled to be included in the next version of Microsoft Windows Vista.

[edit]

Macintosh

PDF was selected as the "native" metafile format for Mac OS X, replacing the PICT format of the earlier Mac OS. Mac OS X's imaging model, Quartz 2D, is based on both the Display