

Portable Document Format

Vector graphics in PDF, as in PostScript, are constructed with *paths*. Paths are usually composed of lines and cubic, but can also be constructed from the outlines of text. Unlike PostScript, PDF does not allow a single path to mix text outlines with lines and curves. Paths can be stroked, filled, or used for Strokes and fills can use any color set in the graphics state, including *patterns*.

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 ; any files, graphics, or fonts to which the document refers also are collected; then, everything is compressed to a single file. Therefore, the entire PostScript world (fonts, layout, measurements) remains intact.

Objects may be either *direct* (embedded in another object) or *indirect*. Indirect objects are numbered with an *object number* and a *generation number* and defined between the *obj* and *endobj* keywords. An index table, also called the cross-reference table and marked with the *xref* keyword, follows the main body and gives the byte offset of each indirect object from the start of the file. This design allows for efficient to the objects in the file, and also allows for small changes to be made without rewriting the entire file (*incremental update*). Beginning with PDF version 1.5, indirect objects may also be located in special streams known as *object streams*. This technique reduces the size of files that have large numbers of small indirect objects and is especially useful for *Tagged PDF*.

At the end of a PDF file is a trailer introduced with the *trailer* keyword. It contains a dictionary, an offset to the start of the cross-reference table (the *xref* keyword), and the marker. The dictionary contains a reference to the root object of the tree structure, which is also known as the *catalog*, the count of indirect objects in the cross-reference table, and other optional information.



Table

X	Y	Z
1	2	3
4	5	6

Columns

However, there are still some proprietary technologies defined only by Adobe, such as (XFA) and extension for Acrobat, which are referenced by ISO 32000-1 as indispensable for the application of the ISO 32000-1 specification. These proprietary technologies are not standardized and their specification is published only on Adobe's website. Many of them are also not supported by popular third-party implementations of PDF. So when organizations publish PDFs which use these proprietary technologies, they present accessibility issues for some users.

