

# SVG2PDF

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## Digital Applications

**A technology preview showing how XML can be used as an alternative to Postscript for the creation of PDF files.**

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SVG2PDF is an application for computers running MacOS 7.5 (and later) and Windows 95 (and later) or Windows NT that will convert an SVG document (i.e. an XML document using the SVG grammar) into a PDF document that can then be viewed by anyone using Adobe Acrobat or similar products.

### 1.0 Background

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SVG, Scalable Vector Graphics, is the new standard for describing two-dimensional vector and mixed vector/raster graphics for the Web. SVG is an XML grammar which allows it to be quite portable and human readable.

SVG allows for three types of graphic objects: vector graphic shapes, images and text. Vector graphic shapes are paths consisting of straight lines and curves. Graphical objects can be grouped, styled, transformed and composited into previously rendered objects. The feature set includes nested transformations, clipping paths, alpha masks, filter effects and template objects. As such, the imaging model of SVG draws heavily on that of the standards in the print publishing world - Postscript and PDF.

It was because of this closeness to Postscript and PDF, that we embarked on a path of seeing how SVG could be used as a description language for PDF documents, rather than the complex and “far from human readable” syntax of Postscript. As more and more applications added XML and SVG support to their repertoire, a tool that could then take that output and render a PDF document seemed logical - especially when that process took place automatically on a server as part of an automated process.

## 2.0 User Interface

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There isn't much! SVG2PDF provides just enough of a user interface to let you use it and see the results. There are no preferences, no options, no controls - it just works!

### 2.1 MacOS

The MacOS version of SVG2PDF supports drag & drop, allowing you to simply drag any number of SVG documents (with any file extension and type) onto it and it will create equivalent PDF documents named the same as the SVG document but ending in '.pdf'. SVG2PDF also supports limited AppleScript support via the standard "open" event, so that you could incorporate SVG2PDF into an automated workflow if you wanted.

### 2.2 Microsoft Windows

The Windows version of SVG2PDF is a standard command line application to which you can pass any number of SVG documents (with any file extension and type) and it will create equivalent PDF documents named the same as the SVG document but ending in '.pdf'. Because of this, you could incorporate SVG2PDF into an automated workflow if you wanted.

## 3.0 How much of SVG does it support?

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Not all of it - that's for sure! However, it does support most of the major pieces of SVG's imaging model for shapes, images and text as well as many extended features including transformations and clipping. Here is a complete list of the features of SVG that are currently supported.

### 3.1 Graphic Shapes

All of the specified graphic shapes are supported:

- rect
- circle
- ellipse
- line
- polyline
- polygon.

### 3.2 Paths

Pen positioning, simple lines and PDF-compatible bezier curves are supported. This includes the following path commands: M/m, Z/z, L/l, H/h, V/v, and C/c.

### 3.3 Images

Images in GIF, JPEG, PNG or TIFF formats are supported, however they **MUST** exist on the local hard disk (i.e. no network fetching, sorry). Also, in the case of GIF and PNG, image transparency is supported - which is pretty cool in a PDF file!

### 3.4 Text

Text is converted from the document's specified encoding (usually UTF-8) to PDF's standard encoding for that platform (WinAnsiEncoding or MacRomanEncoding).

### 3.5 Styles

Styling of objects is only supported via direct "style" attributes on a given object (or object group). Document global or external style sheets are not supported at this time.

The following styles are supported for all objects:

- fill
- stroke
- stroke-width

The following styles are supported for graphic objects (shapes and paths)

- stroke-linecap
- stroke-linejoin
- stroke-dasharray

The following styles are supported for text:

- font-family (must be either serif, sansserif or one of the PDF Base14 fonts)
- font-size
- font-style (italic, oblique)
- font-weight (bold, bolder)
- text-align
- text-decoration
- letter-spacing
- word-spacing

### 3.6 Groups

Grouping of objects is fully supported, including the specifying of group level styling and transformation.

### 3.7 Transformations

All of the standard transformations are supported

- rotate
- translate
- skew
- scale
- matrix

### 3.8 Clipping

You can currently use any polyline, polygon or path as a clippath.

### 3.9 Hyperlinks

Hyperlinks (with specified border options) can be specified on any of the basic shapes and on images.

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## 4.0 Acknowledgements

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SVG2PDF was written by Leonard Rosenthol, with moral support from Mark and Virginia Gavin.

SVG2PDF is based on a number of open source tools that we recommend to others working with XML or PDF. It uses James Clark's excellent expat XML parser (<http://www.jclark.com/xml/expat.html>) and Thomas Merz's wonderful PDFlib library (<http://www.pdflib.com/pdflib/index.html>) for creating the PDF documents.

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## 5.0 Where to find more info

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If SVG2PDF has gotten you interested in XML, SVG or PDF, here are a few places on the Net you might want to look for more information

- World Wide Web Consortium - <http://www.w3c.org>
- XML 1.0 Specification - <http://www.w3c.org/XML>
- SVG Specification - <http://www.w3c.org/SVG>
- PDF Specification - <http://partners.adobe.com/asn/developer/acrosdk/docs.html>

In order to view SVG files directly in your web browser, you can use:

- IBM's - <http://www.alphaworks.ibm.com/tech/svgview>
- CSIRO's - <http://www.cmis.csiro.au/svg>
- Takahashi Mashiro - <http://www.ke.ics.saitama-u.ac.jp/%7emasajava/JDK1.2/svg-viewer.html>

For other tools that work with SVG files, you might want to try some of the following:

- Mayura Draw (<<http://www.mayura.com/>>) - draw application for Windows
- Corel Draw SVG Exporter (<<http://www.corel.com/svg/>>)
- Sketch (<<http://sketch.sourceforge.net/>>) - Python-based draw program for Unixes
- GILL (<<http://www.levien.com/svg/>>) - Linux (GNOME) illustration program

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## 6.0 Feedback

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We would love to hear from you concerning SVG2PDF. Did you find it useful? What kinds of things would you envision doing with? What kind of things are missing to make it more useful to you?

Please direct all feedback - positive, negative or otherwise to [svgfeedback@digapp.com](mailto:svgfeedback@digapp.com).

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## 7.0 All about Digital Applications

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We've been providing contract programming services since 1988, however in the past seven years our specialization has been developing tools for Adobe Acrobat and PDF documents, especially those running unattended on servers. Our solutions are cross platform for Macintosh, Windows and UNIX operating systems.

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