

PNG (Portable Network Graphic)

Most of us have heard about PNG by now, but few developers are using it on the Web due to the uneven support within the various Web browsers. The format was developed as a result of the Unisys/GIF controversy and the need to overcome the limitations of both the GIF and JPEG formats. Macromedia has adopted PNG as the native format for its Fireworks product, yet most users are still converting images for the Web to GIF and JPEG.

The next generation of browsers promise more complete support for all the features of this format, but one must wonder if it will ever make it to the mainstream, especially with the new JPEG 2000 and SVG standards currently in development. Then again, if browser support for these newer image formats languishes as long as it has for PNG, it could be a very long time before any of us will see the results of these efforts.

Regardless, PNG is finally becoming an accepted graphics standard even if not for the Web. More and more software is supporting it, users are becoming more comfortable using it, and they have come to expect support for the format within their applications. Advantages of PNG images include:

- Lossless compression
- 48-bit, true-color depth
- varying levels of transparency
- gamma correction
- better compression, 10-30 percent smaller files than GIF
- searchable content
- patent-free compression algorithm

Scalable Vector Graphics (SVG)

Scalable Vector Graphics is the newest big project in the works for Web graphics. The format is an open standard based on XML, eXtensible Markup Language. Once it's standardized and adopted by the browsers and software manufacturers, this will mean a huge step forward from the limitations of current Web graphics. Some of the inherent qualities promised in the SVG format include:

- fully scalable images for zooming and panning
- pixel perfect positioning
- high resolution gradients, drop shadows, and other filter effects
- enhanced color control and color accuracy
- highest possible printing resolution
- better typographic control including kerning, text on a path, and unlimited fonts.
- editable and searchable text
- ability to search text elements within graphics
- dynamic content, animation, and interactivity through scripting
- compact download sizes
- Cascading Style Sheet support enabling global Web site changes
- multiple levels of transparency
- support for other devices such as palmtops, GPS, cellphones

JPEG 2000

The JPEG format has been around for a long time; over a decade, in fact. There are some big changes in store for the next decade as the ISO and DIG work together on a new standard for the JPEG format, entitled JPEG 2000: Image Coding System. If we're lucky, news about the new standard should be forthcoming in the next year. The goals for the new JPEG 2000 standards include the following enhancements:

- wavelet technology for a more efficient compression scheme
- 20% smaller files in byte-size
- higher image quality than current JPEG

- eliminates "artifacts" inherent to the current JPEG compression scheme
- user-controlled resolution; download only the amount of resolution needed
- lossless save
- embedded ICC profiles
- improved metadata capability bringing extensibility to the format
- improved color handling