# FONT FORMATS and WEB FONTS

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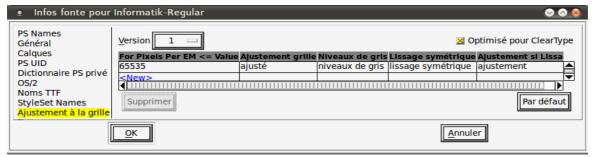
## Introduction

After several tests and font manipulations, this is a summary of all the actions and findings made by myself or by other members of the ADF team. Some descriptions done are at this point still subject to development. But, in general, there is enough informations to identify issues.

## Fonts formats

Fonts formats depend first on their use. The question is therefore more about font rasterizing than about fonts themselves, since screen technology and rendering engines are now very good. The application Freetype2 is a good example of that.

OTF (Postscript outlines) remains the best choice for all publication works, and is well supported by Linux and Mac OS. Its Opentype features are now more and more supported by all applications. Most of the new fonts developed use this format. Some issues exist on screen with Windows XP, less with Windows Seven. But this doesn't change in any case the result when printing jobs. Once again the screen material is important and some user changes could also alter the rendering. OTF is a good option to replace old Type1 font format with Unicode and have access to opentype features. It's a good way for internationalization with postscript outlines.

TTF (Truetype outlines) seems to be the best choice for screen, as it works fine on Windows. That said, in print are sometimes of inferior quality. This depends more on the font production rather than on anything else. Therefore, the question is whether or not it is possible to build a TTF for screen and print. The development made by ADF, uses an EM design of 1000 rather 2048, and GASP additional line for clear type and smoothing.



FontForge or TTX can do changes in the font data easily, but this needs more tests. I'm testing a new approach using values like those in Cambria (by Microsoft). Some problems appear with MS font validator and HDMX table values reworked by CacheTT, or if VDMX table is missing. This is also true when using CacheTT.exe alone or from FontLab studio TT font generation. I'm not sure about issues here. I finally made the choice not to use Microsoft font tools for TTF production. There is no complaint with FF or Fontlab...

Other issues were reported due to font naming. I decided last year (2010) to follow the fonts naming specifications as described in the WPF font selection model and font names by Thomas Phinney, with exception for weight description. Now all are working fine with LibreOffice and MicrosoftOffice independently of the system used. This solution seems ending problem with MAC name since version 10.4, removing warning with XeTeX or FF with font generated by AFDKO *(and all Adobe fonts)...*

## Web Fonts formats

A part of tests and development has been directed to the Web font formats. It was decided last year to support WOFF only. The reason is this format can used CFF or TTF source without any change. But TTF source seems better in order to display on all kind of screens. The problem is that it is easily possible to edit the font and convert it to an other format. Established commercial foundries will never accept to produce or authorize such format if a lock isn't set during edition.

EOT works only if source is a TTF and if the Web browser is Internet Explorer, IE9 should support WOFF... That said, EOT is more protected to conversion, but too limited because not really supported by other web browsers.

SVG is no longer tested and supported, since this format doesn't keep hints. CEF is an alternative way, but is only supported by Adobe applications ! In addition SVG can easily be converted to an other font format excluding all production by commercial founders.

Most of the fonts formats generated by fonts services aren't good enough to be used. This depends , once again, on the source used and on the font conversion. An OTF converted to EOT gives bad result. Some WOFF fonts need to be rehinted, and I don't speak about conversion of ACaslon-Regular.otf to webTT, not to mention licensing issues...

I think that the font foundries should offer Web Fonts rather than use font service conversion or on-line Web Fonts servers. In others words, be sure of what they produce and how it will be used. It's also possible to use font source directly with libre fonts, without any copyrights issues or web embedding conditions. Indeed a second point concerns the commercial fonts licenses and Web embedding. It is no surprise that Monotype now includes a new line in its EULA. But this concerns, strangely, EOT with no commercial use only ! Such point does not apply to open source fonts but priority should be given to the quality of available web fonts. I talk here only for libre fonts, since many free fonts permit only personal and no commercial use.  Due to font embedding commercial license limits, there is an alternative through a font server fee, but inevitably, it will lead to additional long-term costs for a professional project.

## Conclusion

OTF and TTF formats are now very well supported by all Operating Systems, even if some issues have been reported. Most of the problems of rendering we found come from the rasterizer rather than from the fonts themselves. Over the last few years, it's the subject of Web Design and font embedding that raises many questions about formats and quality. This depends above all on web browsers and font format support and the W3C specifications with WOFF that can standardize and clear CSS files. WOFF seems be to the best choice but need to be edited directly by founders rather than by online font converters and is limited to open source fonts or fonts that are free for commercial use.