Web Open Font Format (WOFF)
Fonts on the Web (where we were)

- **1996**
  - First W3C attempt to bring fonts on the Web
  - Two major browsers supporting incompatible proprietary font solutions (EOT vs. PFR)
  - Web authors resorted to using “web-safe” fonts
- **2007**
  - Some browsers introduced support for raw fonts
  - Creation of the Fonts Working Group is discussed
- **2008**
  - EOT submission – the debate continues
- **2009**
  - ZOT & .webfont proposals – we’re out of the maze!
Fonts on the Web (where we are)

- ZOT + .webfont = WOFF
- New format is born
  - Many thanks to the original authors Erik van Blokland (Letterror.com), Jonathan Kew (Mozilla) and Tal Leming (Type Supply)
- Font and browser makers are united with Web authors and users
- WebFonts WG is formed
Fonts on the Web (where we are)

• WOFF specification is published as a First Public Working Draft
  – Spec is available without fees (RF commitments)
  – Triggers opportunity for patent exclusion
  – More drafts may follow – clarifications, improvements, bug fixes, but no major changes are expected!

• Major browsers support WOFF today!
Fonts on the Web (where we go)

• Last Call Working Draft
  – Everyone agrees and we are all happy
  – Last opportunity for patent exclusion
  – Accessibility and internationalization review

• Candidate Recommendation
  – Creation of a test suite
  – Testing of implementations
  – Implementation report (2+ implementations pass)

• Proposed Recommendation (W3C, pass/fail)

• W3C Recommendation – Web Standard!
WOFF
What is it, exactly?
WOFF File Format

WOFF Header

Font Data

Metadata

Private Data

optional

optional
WOFF File Format

WOFF Header

Includes identifying signature, indicates the specific kind of font data (TTF, OTF, etc.), provides the file parsing information, font table directory, etc.

Font Data

Metadata

Private Data
WOFF File Format

Metadata

- Unique ID: A unique identifier for the font
- Vendor: The vendor name and URL
- Credits: Info about designer, hinter, etc.
- Description: Typeface description, history, use recommendation, etc.
- License Info: Information about font license
- Copyright: A copyright notice for the font
- Trademark: A trademark statement
- Licensee: The licensee for the font
- Extensions: Vendor-specific extended info

Private Data

- Glyph Data (CFF | glyf/loca)
- GSUB
- DSIG
- GPOS

Example data:

<table>
<thead>
<tr>
<th>name</th>
<th>cmap</th>
<th>hmtx</th>
<th><code>hhea</code></th>
<th><code>Os/</code></th>
<th><code>mpo</code></th>
</tr>
</thead>
<tbody>
<tr>
<td><code>data</code></td>
<td><code>2</code></td>
<td><code>pt</code></td>
<td><code>a</code></td>
<td><code>e</code></td>
<td><code>h</code></td>
</tr>
</tbody>
</table>
### WOFF File Format

#### Metadata

```xml
<?xml version="1.0" encoding="UTF-8"?>
<metadata version="1.0">
  <uniqueid id="com.example.fontvendor.demofont.bold.2010" />
  <vendor name="Font Vendor" url="http://fontvendor.com" />
  <credits>
    <credit name="FontDesigner" url="http://fontdesigner.com" role="Art Director" />
    <credit name="Another Font Designer" role="Designer" />
  </credits>
  <description>
    <text lang="en">A member of the Demo font family.</text>
  </description>
  <license url="http://fontvendor.com/license" id="woff-2010-A">
    <text lang="en">A license description goes here.</text>
  </license>
  <copyright>
    <text lang="en">©2010 Font Vendor</text>
  </copyright>
</metadata>
```

#### Private Data

<table>
<thead>
<tr>
<th>cmap</th>
<th>hmtx</th>
<th>hhea</th>
<th>hhea2</th>
<th>OS/2</th>
<th>table</th>
</tr>
</thead>
</table>

#### Glyph Data (CFF | glyf/loca)
WOFF File Format

Metadata

Private Data

Glyph Data (CFF | glyf/loca)

name

cmap

hmtx

he
he
h
O
m
p

sa
o

s
x
s

pt

d
d
2

GSUB

DSIG

GPOS

Great Webfonts and Typography
http://greatwebfonts.com

Font | Source
--- | ---
TrixieLightOT.woff | http://greatwebfonts.com/fonts/TrixieLightOT.woff
TrixieHeavyOT.woff | http://greatwebfonts.com/fonts/TrixieHeavyOT.woff
MetaSerifLight.woff | http://greatwebfonts.com/fonts/MetaSerifLight.woff
MetaSerifBold.woff | http://greatwebfonts.com/fonts/MetaSerifBold.woff
MetaSerifLightItalic.woff | http://greatwebfonts.com/fonts/MetaSerifLightItalic.woff

licensee

Great Webfonts and Typography, Inc.

uniqueid

id | com.example.fontvendor.demofont.rev12345

credits

Font Designer

role | Lead
url | http://fontdesigner.example.com
WOFF File Format

A block of arbitrary data reserved exclusively for use by font creators.

Private Data

Glyph Data (CFF | glyf/loca)

GSUB  DSIG  GPOS
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
    <title>WOFF Example</title>
    <style type="text/css">
      /* The is CSS code that defines font source and style */
      #wrapper {
        width: 600px;
        margin: 40px;
      }

      @font-face {
        font-family: Musclehead;
        src: url(woff_files/Musclehead.woff) format("woff");
      }

      .headline {
        font-family: Musclehead, Verdana, sans-serif;
        font-size: 60px;
        text-shadow: #ccc 2px 2px 5px;
        color: #0087EB;
      }
    </style>
  </head>
  <body>
    <div id="wrapper">
      <p class="headline">ATypI, meet WOFF</p>

    </div>
  </body>
</html>
WebFonts in Action

ATypI, meet WOFF WebFonts in action
Typographic diversity for the web
Erik Spiekermann and FontFont endorse WOFF

October 20, 2009 — FF Meta was originally conceived as a typeface for use in small point sizes. Against its intended purpose, FF Meta very quickly became one of the most popular typefaces of the computer era. It is mainly used in magazines, from the Normal weight in small point sizes for captions up to the Black version for large headlines.

However, now it's time to use this typeface on web sites as well.

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WebFonts in Action

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However, now it’s time to use this typeface on web sites as well.

For this reason FF Meta is now a FontFont Typeface. It is a little bit original, contemporary and it is an excellent example of how to implement the WOFF specification, with default same-origin loading restrictions, as a Web font format. FontFont expects to license fonts for Web use in this format.

We hope that besides the upcoming Mozilla Firefox 3.6 other browsers will join in implementing WOFF.
WebFonts in Action

Typographic diversity for the web

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For this reason, the developers of **FontFont** and the company **Erik Spiekermann** have combined their expertise to provide a solution for the web. The result is **FF Meta WebFont**. This unique service allows web designers to legally and easily use typefaces like **FF Meta** on their websites. The webfont is based on Google's WebFont service, which makes it easy to use on any website. We hope other developers will join in implementing WOFF.
October 20, 2009 — **FF Meta** was originally conceived as a typeface for use in small point sizes. Against its intended purpose, FF Meta very quickly became one of the most popular typefaces of the computer era. It is mainly used in magazines, from the Normal weight in small point sizes for captions up to the Black version for large headlines.

However, now it’s time to use this typeface on websites as well.

For this reason, the **FontShop** team has put together a big collection of original, contemporary typefaces — and the **FontShops** endorse the WOFF specification, with default same-origin loading restrictions, as a Web font format. FontFont expects to license fonts for Web use in this format.

We hope that besides the upcoming **Mozilla Firefox** 3.6 other browsers will join in implementing WOFF.

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Same-Origin Restriction and CORS

- WebFonts introduce a significant security risk
- Same-origin restriction protects users from malicious attacks involving font files, and is mandated by CSS and WOFF specifications
• Same-origin restriction is satisfied if both HTML document and the fonts are delivered using:
  • Same protocol
  • Same domain
  • Same port
• The restriction can be lifted using “Cross-Origin Resource Sharing” (a new technology being developed by W3C)
What WOFF isn’t!
WOFF is not a new Font Format
WOFF is not a DRM

• There is no obfuscation or rights management:
  – A font packaged inside WOFF file can be easily converted back to its original format.
  – WOFF serves as a “garden fence” that informs users about the intended web font use and license conditions.
  – Violators can no longer claim ignorance – they know exactly what they’re doing.
WOFF is not theft-proof

• “Can I download a WOFF file from a Web server and simply upload it to my own server?”

• Yes, you can! But, by doing so:
  – You identify yourself as a thief! The WOFF metadata says that someone else has actually licensed a font.
  – Metadata can be edited, but the private data will likely contain information that identifies a licensee transaction ID
  – Private data can be removed but the font itself remains identifiable and its presence on a server paints you as a thief

• WOFF metadata and private data are there for font creators – use it to protect your IP!
WOFF
Creation Tools
WOFF Creation Tools

sfnt2woff

http://people.mozilla.com/~jkew/woff/
WOFF Creation Tools

FontForge

http://fontforge.sourceforge.net/
WOFF Tools

http://code.typesupply.com/
http://tools.typesupply.com/

WOFF Creation Tools
Any Web Font service! Any technology! Any design!
A design competition for website using Web fonts. Learn more at www.webfontawards.com
Questions?

Browser Vendors

Font Makers

Web Authors

Web Users

WOFF