Using PostScript Fonts on Windows

Philip C. Roth

Computer Sciences Department
University of Wisconsin-Madison
1210 West Dayton Street
Madison, WI 53706-1685 USA
pcroth@cs.wisc.edu

Introduction

Cross-platform desktop publishing tools like Adobe's FrameMaker allow users to edit the same document on both Windows and UNIX systems. However, font differences between UNIX and Windows platforms can cause subtle problems for those who edit the same document on both types of systems. On most UNIX systems, tools like FrameMaker use PostScript fonts. Microsoft developed TrueType font technology to compete with PostScript font technology, so the only outline fonts provided on stock Windows systems are TrueType fonts. (Recently, Microsoft and Adobe cooperated to develop OpenType, a technology for combining PostScript Type 1 and TrueType font outline information in the same font file. However, the OpenType fonts distributed by Microsoft appear to contain only TrueType outline information.) Microsoft distributes TrueType versions of popular fonts, plus a mechanism for mapping popular PostScript font names to a TrueType font. For example, if a FrameMaker document using the Times font is edited on a Windows system, Windows substitutes its TrueType version of the Times font called Times New Roman. Nevertheless, TrueType and PostScript fonts differ, causing problems for those editing documents on both platforms. Documents edited on Windows may not appear the same on UNIX, and vice versa. Tools may issue cryptic warnings about incorrect font encodings or missing fonts. This document describes how to configure Windows to use PostScript fonts instead of substituting Microsoft's TrueType fonts to reduce font-related problems when editing documents on Windows and UNIX systems.

Obtaining Fonts

The first step in configuring Windows to use PostScript fonts is obtain the desired fonts. Font foundries (including Adobe) make good money selling PostScript font collections and frown upon the piracy of their fonts. However, several popular Adobe fonts can be obtained legally as part of freely downloadable Adobe software packages. For example, version 3 of Adobe's Acrobat Reader contains the font files for the so-called *Base13* PostScript fonts. These fonts are the basic fonts built into every laser printer with a true PostScript interpreter, and include the Times, Courier, Helvetica, Symbol, and Zapf Dingbats fonts with roman, italic, bold, and bold italic styles. As of this writing, this version of Acrobat Reader is still available from Adobe's ftp site. (Installing the Windows version of Acrobat Reader 3 may not be possible on systems that already contain a newer version of Acrobat. However, the fonts are also included in tar files in the UNIX and Linux versions of Acrobat Reader.) Some font foundries distribute their fonts for free without copying restrictions. For example, URW distributes versions of the Adobe

Base35 fonts (the full, standard set of fonts built into PostScript laser printers) under the GNU Public License. These fonts can be obtained as part of the Ghostscript tools, or from the GIMP web site at www.gimp.org/fonts.html.

Regardless of the source, several files are needed to install a given font under Windows. One file has the font outline information. These files usually have a .pfa or .pfb filename extension, indicating the information is in ASCII or binary form, respectively. The information in the two forms is equivalent and utilities exist to convert between the two, but UNIX systems tend to use the ASCII form and Windows systems tend to use the binary form. The second necessary file contains the font's metrics. Files with a .pfm filename extension contain printer font metrics, and those with a .afm filename extension contain Adobe font metric information. Unfortunately, these formats do not contain equivalent information; the .pfm file is more complete. However, the information missing from a .afm file is contained in another file, with a .inf filename extension, and Windows can create a font's .pfm file given the font's .afm and .inf files. The Adobe ftp site contains a complete collection of .afm files for Adobe fonts, but does not appear to contain the associated .inf files.

Installing Fonts

The next step in configuring Windows to use PostScript fonts instead of TrueType fonts is to install the PostScript fonts. Although it is not distributed with PostScript fonts, Windows 2000 and Windows XP contain built-in support for PostScript fonts. It includes a PostScript font rasterizer (the software that converts from font outline information to pixels on the display) for PostScript fonts. For these Windows versions, use the "Install new font..." menu item from the Fonts control panel to install your PostScript fonts.

Windows NT does not have built-in support for managing or rasterizing PostScript fonts. On a Windows NT system, Adobe Type Manager (ATM) or an equivalent product is the only way to use PostScript fonts. Adobe produces a Deluxe version of ATM for purchase, and a light version for free download.

Fonts must be installed from an account with Administrator privileges on each of these Windows versions.

Updating the Font Substitution Table

The final step in configuring Windows to use PostScript fonts instead of TrueType fonts is to update the font substitution table in the Windows Registry so that Windows does not substitute TrueType fonts for the now-installed PostScript fonts. To do this, log in to an account with Administrator privileges and run a Registry Editor program (e.g., regedit.exe). Navigate in the tree control in the left side of the regedit window to select the following key:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\FontSubstitutes
```

This key's values and data contain the Windows font substitution table. With this key selected, the Registry Editor shows the values associated with the key on the right side of its window. The name of each value is a "user-visible" font name, and its data indicates the name of the font that will be used whenever the user-visible font name is used.

For most systems, the only needed changes to this table are to remove the mappings for the Times and Helvetica font names. The easiest way to remove these mappings is to change their value name to some nonsense name. For example, changing the name on the Times entry from 'Times' to 'Times.invalid' will keep Windows from substituting Times New Roman whenever the user chooses to use the font named Times. In regedit, value names can be changed by right-clicking on a name, and choosing 'Rename' from the resulting popup menu.

Reboot the system once the font substitution table changes have been made.

Summary

Differences in outline font technology between Windows and UNIX systems can cause subtle but annoying problems for people who edit documents on both platforms. Fortunately, it is possible to configure Windows to use the same PostScript fonts on Windows as on UNIX to reduce font-related problems when editing the same document on both platforms.