

## ABOUT THE 8.70 DISTRIBUTION

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### 1. INTRODUCTION

Early MacTeX distributions of TeX for OS X installed three packages which came directly from Gerben Wierda's i-Installer packages: Ghostscript, ImageMagick, and Font Utilities (primarily FontForge and the Fondu Mac Font cli Tools). Starting with MacTeX-2008, Gerben's packages were replaced with packages compiled from scratch. Ghostscript and ImageMagick were compiled directly and the second package was pared down to the single utility "convert." The Font Utilities package was omitted entirely.

The most important package is Ghostscript. I have constructed an install package for the most recent release, ghostscript 8.70. The source code comes from <http://www.ghostscript.com>, released on July 31, 2009. Ghostscript fonts come from <http://sourceforge.net/projects/gs-fonts/>, released on December 24, 2003.

Many different operating systems are supported: PPC on systems 10.3, 10.4, 10.5 and Intel on systems 10.4, 10.5, and 10.6; each installation has a version compiled with X11 support and a version compiled without X11 support.

Gerben installed two versions of the ghostscript binary: gs-X11 with X11 support and gs-noX11 without X11 support. At install time, he set the symbolic link "gs" to point to the appropriate binary, depending on whether the user has installed X11 or not. This package does the same.

### 2. WHAT IS INSTALLED

Ghostscript binaries are installed in `/usr/local/bin`. Ghostscript support files are installed in `/usr/local/share/ghostscript/8.70` and man pages are placed in `/usr/local/share/man`. Ghostscript fonts are installed in `/usr/local/share/ghostscript/fonts`.

### 3. THE BINARIES

When making the package, I discovered that Ghostscript compiled on Leopard Intel will not run on Tiger Intel, ghostscript compiled on Leopard PPC will not run on Tiger PPC, ghostscript compiled on Tiger PPC will not run on Panther PPC, and ghostscript compiled

on Panther PPC will not compile unless the optional cups package is disabled. I could have made the package by compiling ghostscript on Tiger Intel and Panther PPC and using lipo to combine these into a universal binary. I was reluctant to do that.

Thus the install package contains four binaries, each universal, and so eight copies of the code! Consider gs-X11, for example. This binary in the install package was constructed by compiling ghostscript with X11 support on Leopard Intel and on Leopard PPC, and using lipo to combine them. The binary gs-noX11 was constructed similarly. But the package also contains gs-X11-tiger, which is made by compiling ghostscript with X11 support on Tiger Intel and on Panther PPC, and using lipo to combine them. The final binary gs-noX11-tiger was made in a similar way.

During installation, the install package determines whether the user has Leopard or an earlier system. If the computer is running Leopard, gs-X11-tiger and gs-noX11-tiger are removed. If the computer is running an earlier system, gs-X11 and gs-noX11 are removed and gs-X11-tiger and gs-noX11-tiger are renamed. So at the end of installation, all machines will contain gs-X11 and gs-noX11 and a symbolic link gs to the appropriate binary. Notice that a user who does not have X11 but later installs it can reset the gs link and get a ghostscript with X11 support.

All of this means that a user with Leopard will get the latest stuff compiled with full Leopard support.

#### 4. PRELIMINARY TESTING

I have tested this on 10.3, 10.4, 10.5 PPC and on 10.4, 10.5, and 10.6 Intel, using the binary with X11 support and the binary without X11 support. Thus I already know that typesetting in “TeX and Ghostscript” mode using Ghostscript to convert a ps file to pdf works, and I know that xdvi under X11 with Ghostscript displaying the eps illustrations works.