

ABOUT THE 9.02 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 9.02. The source code comes from <http://www.ghostscript.com>, released on March 30, 2011. (Ghostscript fonts came from <http://sourceforge.net/projects/gs-fonts/>, released on December 24, 2003. However, the most recent version of Ghostscript contains compressed copies of the fonts inside the binary, so the font folder is no longer needed.)

I'd like users to test this release, particularly since six different installations need to be tested: PPC on system 10.5 and Intel on systems 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/9.02` and man pages are placed in `/usr/local/share/man`. (Ghostscript fonts were installed in `/usr/local/share/ghostscript/fonts`.)

3. THE BINARIES

The install package contains two binaries, each universal in some sense, and so four 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. The binary `gs-X11-64`, intended for Snow Leopard and beyond, was constructed by using `lipo` to combine the copy of `ghostscript` with X11 support compiled on Leopard Intel with a 64 bit version of this code, compiled on Snow Leopard. Note that it is necessary to have a binary with 32 bit binaries since a few Intel machines don't have 64 bit processors.

During installation, the install package determines whether the user has Snow Leopard or higher. If so, `gs-X11` is removed and replaced by `gs-X11-64`. Otherwise, `gs-X11-64` is removed.

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.

4. INSTALLING INTO THE CUPS DIRECTORY

Earlier this year, Bruno Voisin pointed out that `Ghostscript` doesn't just install files in directories in `/usr/local`; it also adds files to the system cups directory for printing, specifically to `/usr/libexec/cups/filter` and `/usr/share/cups/model`. This was probably true in past years as well, and I just didn't notice.

I am extremely reluctant to install files in Apple system directories. The location `/usr/local` is for third party Unix programs and is thus a natural install location. But other directories in `/usr` aren't for users. Much later, Voisin discovered that the extra cups files broke printing in at least one case not related to `Ghostscript`. That convinced me! So the `MacTeX` install package does *not* install the extra cups files from `Ghostscript`.

Users who need these files can obtain `Ghostscript` from `MacPorts` or `Fink`, or better yet just compile it themselves. Compiling `Ghostscript` is quite simple if you have Apple's `XCode`. Obtain the source code from <http://www.ghostscript.com/>. Switch to the resulting source directory and type

```
make clean
./configure
make
sudo make install
```

5. PRELIMINARY TESTING

The release needs to be tested on 10.5 PPC and on 10.5, 10.6 Intel. Test with X11 enabled, and again with X11 disabled. Typeset in “TeX and Ghostscript” mode to ensure that Ghostscript can convert ps files to pdf files; with X11 enabled, test that xdvi works correctly.

Report results to `koch@math.uoregon.edu`. I don’t expect one person to test everything; partial tests are appreciated!