Examination of gDesklets Dependencies

S.Fourmanoit   M.Pirnat

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1   Foreword

This document tries to determine what is, at the time of writing, the minimal set of dependencies required to compile and run gDesklets on an up-to-date desktop system. The author spent several hours testing, as systematically as time permitted, all possible avenues, following often-contradictory indications provided by official documentation, emails, forums, automated build source, how-tos and bug reports. It is not *by any means* a canonical reference on gDesklets installation, merely a report of what seems the current state of this software regarding its dependency tree.

2   Test system

Most of the gDesklets user base uses Linux, although the software is also supported on numerous other platforms; it is even being actively ported to Windows. For the sake of this report, the author built a reference platform using Gentoo Linux. The base system was built from the Gentoo 2004.3 x86 Stage 1 tarball, and all the default profile USE flags were cautiously adjusted to be[1]:

Use flag	Description
+mmx	Adds support for optimizations for Pentium MMX and Athlon class processors
+3dnow	Adds support for 3dnow multimedia processor instructions
+x86	indicates that architecture is x86
+nptl	Enable support for Native POSIX Threads Library
+nptlonly	Remove suport for previous pthread interface
-oss	Adds support for OSS (Open Sound System)
-apm	Adds APM (Advanced Power Management) support
-arts	Adds support for aRts: the KDE sound daemon
-avi	Adds Win32 AVI support and also adds avifile (Library for avi) support

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[1]Flags in red were selected, while those in blue were not.

-berkdb	Adds support for sys-libs/db (Berkeley DB for MySQL)
+bitmap-fonts	Adds support for Bitmapped fonts
-crypt	Add support for encryption – using mcrypt or gpg where applicable
-cups	Add support for CUPS (Common Unix Printing System)
-emboss	Adds support for the European Molecular Biology Open Software Suite
-encode	Adds support for MEncoder or LaME encoder, wherever applicable
-fortran	Adds support for fortran (formally f77)
-font-server	N/A
-foomaticdb	Adds support for the foomatic printing driver database
-gdbm	Adds support for sys-libs/gdbm (GNU database libraries)
-gif	Adds GIF image support
-gnome	Adds GNOME support
-gpm	Adds support for sys-libs/gpm (Console-based mouse driver)
-gtk	Adds support for x11-libs/gtk+ (The GIMP Toolkit)
-gtk2	Use gtk+-2.0.0 over gtk+-1.2 in cases where a program supports both.
-imlib	Adds support for media-libs/imlib (Image loading and rendering library)
-ipv6	Adds support for IP version 6
-jpeg	Adds JPEG image support
-kde	Adds support for kde-base/kde (K Desktop Enviroment)
-libg++	Adds C++ modules in dev-db/postgresql (libpq++)
-libwww	Adds libwww support (General purpose WEB API)
-mad	Adds support for mad (high-quality mp3 decoder library and cli frontend)
-mikmod	Adds libmikmod support to allow playing of SoundTracker-style music files
-motif	Adds motif support (x11-libs/openmotif x11-libs/lesstif)
-mpeg	Adds libmpeg3 support to various packages.
+ncurses	Adds ncurses support (console display library)
+nls	Adds Native Language Support (using gettext - GNU locale utilities)
-oggvorbis	Adds support for the OggVorbis audio encoding
+opengl	Adds support for OpenGL
-pam	Adds support PAM (Pluggable Authentication Modules)
-pdflib	Adds support for PDF (Portable Document Format)
+perl	Adds support/bindings for the Perl language.
-png	Adds support for libpng (PNG images)

+python	Adds support/bindings for the Python language
-qt	Adds support for the Qt library.
-quicktime	Adds support for OpenQuickTime
+readline	enables support for libreadline
-sdl	Adds support for Simple Direct Layer (media library)
-spell	Adds dictionary support
+ssl	Adds support for Secure Socket Layer connections
-svga	Adds support for SVGAlib (graphics library)
+tcpd	Adds support for TCP wrappers
+truetype	Adds support for FreeType and/or FreeType2 fonts
+truetype-fonts	Adds support for TrueType fonts
+type1-fonts	Adds support for Type1 fonts
+X	Adds support for X11
-xml2	Check/Support flag for XML library (version 2)
-xmms	Check/Support for XMMS (X MultiMedia System) player.
+xv	Adds in optional support for the Xvideo extension
+zlib	Adds support for zlib (de)compression

As you can see, most of the flags present in default profile were turned off to keep the system as spartan as possible. The glibc, binutils and gcc packages were also upgraded to their latest stable[2] versions, and the rest of the base system was recompiled then pruned until it looked like this 2. About 251 MB of compressed source files were used to build the test system (see 2). When complete, the base system filled 505 MB on disk, including all development tools and headers, as well as a working X11 and window manager.

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[2]To the author's evaluation, of course.

These are the packages that I would merge, in reverse order:

```
Calculating world dependencies  .   ...done!
[ebuild  N  ] sys-libs/pwdb-0.62                    [ebuild  N   ] sys-libs/glibc-2.3.4.20050125-r1
[ebuild  N  ] sys-apps/ed-0.2-r6                    [ebuild  N   ] sys-apps/baselayout-1.9.4-r6
[ebuild  N  ] sys-apps/less-382-r2                  [ebuild  N   ] sys-apps/util-linux-2.12i-r1
[ebuild  N  ] sys-apps/hdparm-5.7-r1                [ebuild  N   ] sys-kernel/linux26-headers-2.6.8.1-r2
[ebuild  N  ] x11-wm/fluxbox-0.9.12-r1              [ebuild  N   ] sys-fs/e2fsprogs-1.35-r1
[ebuild  N  ] net-misc/wget-1.9.1-r3               [ebuild  N   ] sys-apps/gawk-3.1.3-r2
[ebuild  N  ] app-admin/syslog-ng-1.6.5-r2         [ebuild  N   ] sys-libs/libstdc++-v3-3.3.4
[ebuild  N  ]  dev-libs/libol-0.3.14               [ebuild  N   ] sys-devel/gcc-3.4.3.20050110
[ebuild  N  ] sys-apps/findutils-4.1.20-r1         [ebuild  N   ]  sys-devel/binutils-2.15.92.0.2-r1
[ebuild  N  ] sys-apps/shadow-4.0.5-r3             [ebuild  N   ]  sys-devel/gcc-config-1.3.10-r1
[ebuild  N  ] net-misc/openssh-3.9_p1-r1           [ebuild  N   ]  sys-apps/portage-2.0.51.19
[ebuild  N  ]  sys-apps/tcp-wrappers-7.6-r8        [ebuild  N   ]   dev-lang/python-2.4-r2
[ebuild  N  ] sys-process/procps-3.2.4-r3          [ebuild  N   ]   dev-libs/expat-1.95.8
[ebuild  N  ] net-misc/iputils-021109-r3           [ebuild  N   ]   dev-libs/openssl-0.9.7e
[ebuild  N  ] sys-apps/coreutils-5.2.1-r4          [ebuild  N   ]   dev-lang/perl-5.8.5-r5
[ebuild  N  ]  sys-apps/help2man-1.33.1            [ebuild  N   ]    sys-devel/libperl-5.8.5
[ebuild  N  ]   dev-perl/Locale-gettext-1.01-r1    [ebuild  N   ]    sys-apps/diffutils-2.8.7
[ebuild  N  ] sys-fs/devfsd-1.3.25-r8              [ebuild  N   ]     sys-devel/bc-1.06-r6
[ebuild  N  ] sys-devel/make-3.80-r1               [ebuild  N   ]      sys-devel/flex-2.5.4a-r5
[ebuild  N  ] x11-terms/xterm-197                  [ebuild  N   ]      sys-libs/readline-4.3-r5
[ebuild  N  ]  sys-apps/utempter-0.5.5.5-r1        [ebuild  N   ]     app-shells/bash-3.0-r8
[ebuild  N  ]  app-arch/rpm2targz-9.0-r2           [ebuild  N   ]     sys-apps/debianutils-1.16.7-r4
[ebuild  N  ]   app-arch/cpio-2.6-r1               [ebuild  N   ]     app-arch/bzip2-1.0.2-r5
[ebuild  N  ]    sys-apps/which-2.16                [ebuild  N   ]    dev-python/python-fchksum-1.7.1
[ebuild  N  ] x11-base/xorg-x11-6.8.2-r1           [ebuild  N   ]    sys-apps/sed-4.0.9
[ebuild  N  ]  media-libs/fontconfig-2.2.3         [ebuild  N   ]   sys-devel/bison-1.875d
[ebuild  N  ] x11-base/opengl-update-2.1.1-r1      [ebuild  N   ]    sys-devel/m4-1.4.1
[ebuild  N  ] x11-misc/ttmkfdir-3.0.9-r2           [ebuild  N   ] sys-apps/man-pages-2.01
[ebuild  N  ]  media-libs/freetype-2.1.9-r1        [ebuild  N   ]  sys-apps/man-1.5p
[ebuild  N  ]  media-libs/libpng-1.2.8             [ebuild  N   ]  sys-process/cronbase-0.3.1
[ebuild  N  ] net-misc/rsync-2.6.0-r3              [ebuild  N   ]  sys-apps/groff-1.19.1-r2
[ebuild  N  ]  dev-libs/popt-1.7-r1                [ebuild  N   ]  sys-apps/texinfo-4.8
[ebuild  N  ] app-editors/nano-1.3.4               [ebuild  N   ]   sys-devel/gettext-0.14.1
[ebuild  N  ] sys-apps/file-4.12                   [ebuild  N   ]    sys-devel/gnuconfig-20050223
[ebuild  N  ] sys-process/psmisc-21.5              [ebuild  N   ]    sys-libs/ncurses-5.4-r5
[ebuild  N  ]  sys-devel/libtool-1.5.10-r4         [ebuild  N   ]    sys-devel/patch-2.5.9
[ebuild  N  ]   sys-devel/automake-1.9.4
[ebuild  N  ]   sys-devel/automake-wrapper-1-r1
[ebuild  N  ]    sys-devel/automake-1.4_p6
[ebuild  N  ]    sys-devel/automake-1.7.9-r1
[ebuild  N  ]    sys-devel/automake-1.6.3
[ebuild  N  ]    sys-devel/automake-1.8.5-r3
[ebuild  N  ]    sys-devel/automake-1.5
[ebuild  N  ]     sys-devel/autoconf-2.59-r6
[ebuild  N  ]      sys-devel/autoconf-wrapper-2-r1
[ebuild  N  ]      sys-devel/autoconf-2.13
[ebuild  N  ] sys-fs/udev-045
[ebuild  N  ]  sys-apps/hotplug-base-20040401
[ebuild  N  ] app-arch/tar-1.14
[ebuild  N  ]  app-arch/ncompress-4.2.4-r1
[ebuild  N  ]  app-arch/gzip-1.3.5-r5
[ebuild  N  ] sys-apps/module-init-tools-3.0-r2
[ebuild  N  ] sys-libs/cracklib-2.7-r10
[ebuild  N  ]  sys-apps/miscfiles-1.3-r1
[ebuild  N  ] app-shells/sash-3.7
[ebuild  N  ] sys-apps/kbd-1.12-r3
[ebuild  N  ] sys-apps/net-tools-1.60-r11
[ebuild  N  ] sys-devel/bin86-0.16.16
[ebuild  N  ] sys-apps/grep-2.5.1-r6
[ebuild  N  ] sys-libs/zlib-1.2.2
```

Figure 1: Base test system complete dependency tree

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```
Total 251 MB
Python-2.4.tar.bz2, X11R6.8.2-src.tar.bz2, autoconf-2.13.tar.gz,
autoconf-2.59.tar.bz2, automake-1.4-p6.tar.gz, automake-1.5.tar.gz,
automake-1.6.3.tar.bz2, automake-1.7.9.tar.bz2, automake-1.8.5.tar.bz2,
automake-1.9.4.tar.bz2, bash-2.05b.tar.gz, bash-3.0-gentoo.diff.bz2,
bash-3.0.tar.gz, bash205b-006, bash30-001, bash30-002,
bash30-003, bash30-004, bash30-005, bash30-006, bash30-007,
bash30-008, bash30-009, bash30-010, bash30-011, bash30-012,
bash30-013, bash30-014, bash30-015, bash30-016, bc-1.06.tar.gz,
bin86-0.16.16.tar.gz, binutils-2.15-uclibc-patches-1.0.tar.bz2,
binutils-2.15.92.0.2-patches-1.2.tar.bz2,
binutils-2.15.92.0.2.tar.bz2, bison-1.875d.tar.bz2, bzip2-1.0.2.tar.gz,
coreutils-5.2.1-i18n-0.2.patch.bz2, coreutils-5.2.1-patches-0.9.tar.bz2,
coreutils-5.2.1.tar.bz2, cpio-2.6.tar.bz2, cracklib,2.7.tar.gz,
debianutils_1.16.7.tar.gz, devfsd-v1.3.25.tar.gz,
diffutils-2.8.7.tar.gz, e2fsprogs-1.35.tar.gz, ed-0.2.tar.gz,
eurofonts-X11.tar.bz2, expat-1.95.8.tar.gz, file-4.12.tar.gz,
findutils-4.1.20.tar.gz, flex-2.5.4a.tar.gz, fluxbox-0.9.12.tar.bz2,
fontconfig-2.2.3.tar.gz, freetype-2.1.9.tar.bz2, gawk-3.1.3.tar.gz,
gcc-3.4.3-branch-update-20050110.patch.bz2, gcc-3.4.3-manpages.tar.bz2,
gcc-3.4.3-patches-1.1.tar.bz2, gcc-3.4.3-piepatches-v8.7.7.tar.bz2,
gcc-3.4.3.tar.bz2, gemini-koi8-u.tar.bz2,
gentoo-cursors-tad-0.3.1.tar.bz2, gettext-0.14.1.tar.gz,
gettext-1.01.tar.gz, glext.h-26.bz2, glibc-2.3.4-patches-1.2.tar.bz2,
glibc-2.3.4.tar.bz2, glibc-infopages-2.3.4-r1.tar.bz2,
glibc-linuxthreads-2.3.4.tar.bz2, glibc-manpages-2.3.4-r1.tar.bz2,
glxext.h-10.bz2, gnuconfig-20050223.tar.bz2,
grep-2.5.1.tar.gz, groff-1.19.1.tar.gz, gzip-1.3.5-deb.patch.bz2,
gzip_1.3.5.orig.tar.gz, hdparm-5.7.tar.gz, help2man-1.33.1.tar.gz,
hotplug-2004_04_01.tar.gz, iputils-ss021109-try.tar.bz2, kbd-1.12.tar.gz,
less-382.tar.gz, libol-0.3.14.tar.gz, libpng-1.2.8.tar.bz2,
libtool-1.5.10.tar.gz, linux-2.6.8.1-sh-headers.patch.bz2,
linux-2.6.8.1.tar.bz2, m4-1.4.1.tar.gz, make-3.80.tar.bz2,
man-1.5p.tar.gz, man-pages-2.01.tar.bz2, miscfiles-1.3.tar.gz,
module-init-tools-3.0.tar.bz2, modutils-2.4.27.tar.bz2,
nano-1.3.4.tar.gz, ncompress-4.2.4.tar.gz, ncompress_4.2.4-15.diff.gz,
ncurses-5.4.tar.gz, net-tools-1.60-patches-1.0.tar.bz2,
net-tools-1.60.tar.bz2, openssh-3.9p1.tar.gz, openssl-0.9.6m.tar.gz,
openssl-0.9.7e.tar.gz, patch-2.5.9.tar.gz, perl-5.8.5.tar.gz,
popt-1.7.tar.gz, portage-2.0.51.19.tar.bz2, procps-3.2.4.tar.gz,
protector-3.4.3.20050110-0.tar.gz, psmisc-21.5.tar.gz, pwdb-0.62.tar.gz,
python-fchksum-1.7.1.tar.gz, readline-4.3.tar.gz, readline43-001,
readline43-002, readline43-003, readline43-004, readline43-005,
rpm2targz-9.0.tar.gz, rsync-2.5.6-proxy-auth-1.patch,
rsync-2.6.0.tar.gz, sash-3.7.tar.gz, sed-4.0.9.tar.gz,
shadow-4.0.5.tar.bz2, svorakln.tar.gz, syslog-ng-1.6.5.tar.gz,
tar-1.14.tar.bz2, tcp-wrappers-7.6-r8-patches.tar.bz2,
tcp_wrappers_7.6.tar.gz, texinfo-4.7.tar.bz2, ttmkfdir-3.0.9.tar.bz2,
udev-045.tar.bz2, utempter-0.5.5-5.src.rpm, util-linux-2.12i.tar.gz,
wget-1.9.1.tar.gz, which-2.16.tar.gz, xorg-x11-6.8.2-files-0.1.tar.bz2,
xorg-x11-6.8.2-patches-0.1.2.tar.bz2, xterm-197.tgz, zlib-1.2.2.tar.bz2
```

Figure 2: Source tarballs used during base system compilation

3 gDesklets

The local portage tree was updated for the last time on Thursday, March 17, at 03:33:19 EST, 2005, and the dependency tree for the latest gdesklets-core available at that time is shown in the 3 image. The complete installation required 78 MB of source, and 300 MB on disk when the installation was finished. Once installed, every display the author tried ran fine.

As you can see, a lot of dependencies come from gnome-python. Following various email advice and recommendations found on forums, the author managed to alter the build process by manually removing dependencies to:

- gnome-base/nautilus

- gnome-base/gnome-panel

- gnome-base/libgnomeprint

- nome-base/libgnomeprintui

Even with these dependencies removed, the author was still able to get a mostly-working installation of gDesklets. Here, the author used a snapshot from gDesklets' public CVS extracted on Wednesday, March 16 at 15:38:26 EST, 2005. The amount of source code needed was reduced to 51 MB, and the final installed size on disk was 206 MB. It is good to note, though, that not installing gnome-panel makes some displays (such as desklet-starterbar) fail to start; unfortunately, the requirements for this component are significant.

Numerous attempts to further reduce the dependency set were made, without success. For instance, since gDesklets recently dropped gnome-vfs, it would have been nice to avoid installing it, but the GNOME design is far from orthogonal between components, and the use of one compoent often makes us fall into various indirect and circular dependency problems. In this case, libbonobo for one, could not be compiled without it.

These are the packages that I would merge, in reverse order:

Calculating dependencies   ...done!
```
[ebuild  N    ] gnome-extra/gdesklets-core-0.33.1  -debug -doc 1,109 kB
[ebuild  N    ]  gnome-base/libgtop-2.8.3  -debug 1,022 kB
[ebuild  N    ]  dev-python/gnome-python-2.6.1  -debug -gtkhtml 358 kB
[ebuild  N    ]   gnome-base/libgnomeprintui-2.8.2  -debug -doc 569 kB
[ebuild  N    ]   x11-libs/libzvt-2.0.1-r2  -debug 244 kB
[ebuild  N    ]   dev-python/pyorbit-2.0.1  -debug 237 kB
[ebuild  N    ]   gnome-base/libgnomeprint-2.8.2  -cups -debug -doc 748 kB
[ebuild  N    ]   gnome-base/nautilus-2.8.2-r1  -cups -debug -flac -gstreamer -mad -oggvorbis 5,672 kB
[ebuild  N    ]    gnome-base/librsvg-2.8.1-r1  -debug -doc -gnome +zlib 352 kB
[ebuild  N    ]    gnome-extra/libgsf-1.10.0  -debug -doc -gnome 389 kB
[ebuild  N    ]    dev-libs/libcroco-0.6.0  -debug 349 kB
[ebuild  N    ]    gnome-base/eel-2.8.2  -debug 606 kB
[ebuild  N    ]     gnome-base/gail-1.8.2-r1  -debug -doc -static 539 kB
[ebuild  N    ]    dev-util/desktop-file-utils-0.9  414 kB
[ebuild  N    ]   sys-apps/eject-2.0.13-r1  +nls 58 kB
[ebuild  N    ]   gnome-base/gnome-panel-2.8.3  -debug -doc -eds 3,031 kB
[ebuild  N    ]    x11-libs/libwnck-2.8.1-r1  -debug -doc 386 kB
[ebuild  N    ]    gnome-base/gnome-desktop-2.8.3  -debug 1,115 kB
[ebuild  N    ]    app-text/scrollkeeper-0.3.14  +nls 663 kB
[ebuild  N    ]     dev-libs/libxslt-1.1.12  -crypt +python 1,736 kB
[ebuild  N    ]     app-text/docbook-xml-dtd-4.1.2-r5  73 kB
[ebuild  N    ]     app-text/docbook-sgml-utils-0.6.14  -tetex 122 kB
[ebuild  N    ]     app-text/docbook-xml-dtd-4.3  81 kB
[ebuild  N    ]      app-text/docbook-xsl-stylesheets-1.66.1  1,514 kB
[ebuild  N    ]       app-text/build-docbook-catalog-1.2  3 kB
[ebuild  N    ]      www-client/links-2.1_pre15  +X -directfb -fbcon -gpm -javascript -jpeg -png +ssl -svga -tiff -unicode 3,700 kB
[ebuild  N    ]     app-text/docbook-xml-simple-dtd-1.0  30 kB
[ebuild  N    ]     app-text/docbook-xml-simple-dtd-4.1.2.4-r2  34 kB
[ebuild  N    ]     app-text/docbook-sgml-dtd-3.1-r2  54 kB
[ebuild  N    ]     app-text/docbook-sgml-dtd-3.0-r2  42 kB
[ebuild  N    ]     app-text/docbook-dsssl-stylesheets-1.77-r2  385 kB
[ebuild  N    ]      dev-perl/SGMLSpm-1.03-r5  91 kB
[ebuild  N    ]     app-text/docbook-sgml-dtd-4.0-r2  54 kB
[ebuild  N    ]     app-text/docbook-sgml-dtd-4.1-r2  55 kB
[ebuild  N    ]      app-arch/unzip-5.52  1,113 kB
[ebuild  N    ]     app-text/openjade-1.3.2-r1  -debug 873 kB
[ebuild  N    ]      app-text/opensp-1.5.1  +nls 1,385 kB
[ebuild  N    ]      app-text/sgml-common-0.6.3-r4  74 kB
[ebuild  N    ]    x11-libs/startup-notification-0.8  230 kB
[ebuild  N    ]  x11-themes/gnome-themes-2.8.2  -accessibility -debug 2,652 kB
[ebuild  N    ]  x11-themes/gtk-engines-2.2.0  1,072 kB
[ebuild  N    ]   media-libs/imlib-1.9.14-r3  574 kB
[ebuild  N    ]    media-libs/tiff-3.7.1-r1  1,224 kB
[ebuild  N    ]    x11-libs/gtk+-1.2.10-r11  -debug +nls 2,880 kB
[ebuild  N    ]     dev-libs/glib-1.2.10-r5  -debug 411 kB
[ebuild  N    ]    media-libs/giflib-4.1.3  +X -gif 556 kB
[ebuild  N    ]    media-libs/jpeg-6b-r4  -debug 598 kB
[ebuild  N    ]  x11-themes/gnome-icon-theme-2.8.0  -debug 2,800 kB
[ebuild  N    ]  x11-themes/hicolor-icon-theme-0.5  30 kB
[ebuild  N    ]    gnome-base/libgnomeui-2.8.1-r1  -debug -doc -jpeg 1,422 kB
[ebuild  N    ]     gnome-base/gnome-keyring-0.4.1  -debug 359 kB
[ebuild  N    ]   gnome-base/libbonoboui-2.8.1  -debug -doc 997 kB
[ebuild  N    ]    gnome-base/libgnome-2.8.1  -debug -doc 1,150 kB
[ebuild  N    ]    gnome-base/gnome-vfs-2.8.4  -debug -doc -gnutls -hal -howl -ipv6 -samba +ssl 1,921 kB
[ebuild  N    ]     app-admin/fam-2.7.0-r2  294 kB
[ebuild  N    ]     net-nds/portmap-5b-r9  -debug (-selinux) +tcpd 18 kB
[ebuild  N    ]     gnome-base/gnome-mime-data-2.4.2  -debug 829 kB
[ebuild  N    ]     gnome-base/gconf-2.8.1-r1  -debug -doc 1,690 kB
[ebuild  N    ]     media-sound/esound-0.2.34  -alsa -ipv6 +tcpd 310 kB
[ebuild  N    ]      media-libs/audiofile-0.2.6-r1  365 kB

[ebuild  N    ]    gnome-base/libgnomecanvas-2.8.0  -debug -doc 565 kB
[ebuild  N    ]     media-libs/libart_lgpl-2.3.17  -debug 282 kB
[ebuild  N    ]    gnome-base/libglade-2.4.2  -debug -doc 310 kB
[ebuild  N    ]    gnome-base/libbonobo-2.8.1  -debug -doc 1,036 kB
[ebuild  N    ]     gnome-base/orbit-2.12.1  -debug -doc +ssl 659 kB
[ebuild  N    ]      dev-libs/libIDL-0.8.5  -debug 331 kB
[ebuild  N    ]      dev-util/indent-2.2.9-r2  +nls 662 kB
[ebuild  N    ]  dev-python/pygtk-2.6.1  -debug -doc -gnome +opengl 712 kB
[ebuild  N    ]   dev-python/numeric-23.7  708 kB
[ebuild  N    ]   dev-python/pyopengl-2.0.1.09  2,129 kB
[ebuild  N    ]    media-libs/glut-3.7.1  2,479 kB
[ebuild  N    ]   x11-libs/gtkglarea-1.99.0  -debug 205 kB
[ebuild  N    ]   x11-libs/gtk+-2.6.4  -debug -doc -jpeg -static -tiff 10,985 kB
[ebuild  N    ]    x11-misc/shared-mime-info-0.14-r2  347 kB
[ebuild  N    ]     dev-libs/libxml2-2.6.17  -debug -ipv6 +python +readline 2,995 kB
[ebuild  N    ]      dev-util/intltool-0.32.1  121 kB
[ebuild  N    ]      dev-perl/XML-Parser-2.34  224 kB
[ebuild  N    ]    dev-libs/atk-1.8.0-r1  -debug -doc -static 488 kB
[ebuild  N    ]    x11-libs/pango-1.8.1  -debug -doc -static 973 kB
[ebuild  N    ]     dev-libs/glib-2.6.3  -debug -doc 2,246 kB
[ebuild  N    ]   dev-util/pkgconfig-0.15.0  596 kB
```

Total size of downloads: 80,757 kB
```

Figure 3: Default dependency tree for gdesklets-core-0.3.1

```
These are the packages that I would merge, in reverse order:

Calculating dependencies     ...done!
[ebuild  N    ] gnome-extra/gdesklets-core-20050316  -debug -doc 0 kB [1]
[ebuild  N    ] gnome-base/librsvg-2.8.1-r1  -debug -doc -gnome +zlib 352 kB
[ebuild  N    ]  gnome-extra/libgsf-1.10.0  -debug -doc -gnome 389 kB
[ebuild  N    ]  dev-libs/libcroco-0.6.0  -debug 349 kB
[ebuild  N    ] gnome-base/libgtop-2.8.2  -debug 1,023 kB
[ebuild  N    ] x11-themes/gnome-themes-2.8.1  -accessibility -debug 2,654 kB
[ebuild  N    ] x11-themes/gtk-engines-2.2.0  1,072 kB
[ebuild  N    ]  media-libs/imlib-1.9.14-r3  574 kB
[ebuild  N    ]  media-libs/tiff-3.7.1-r1  1,224 kB
[ebuild  N    ]  x11-libs/gtk+-1.2.10-r11  -debug +nls 2,880 kB
[ebuild  N    ]   dev-libs/glib-1.2.10-r5  -debug 411 kB
[ebuild  N    ]  media-libs/giflib-4.1.3  +X -gif 556 kB
[ebuild  N    ]   media-libs/jpeg-6b-r4  -debug 598 kB
[ebuild  N    ] x11-themes/gnome-icon-theme-2.8.0  -debug 2,800 kB
[ebuild  N    ] x11-themes/hicolor-icon-theme-0.5  30 kB
[ebuild  N    ] dev-python/gnome-python-2.6.1  -debug -gtkhtml 0 kB [1]
[ebuild  N    ] gnome-base/libgnomeui-2.8.1-r1  -debug -doc -jpeg 1,422 kB
[ebuild  N    ]  gnome-base/gnome-keyring-0.4.0  -debug 336 kB
[ebuild  N    ] x11-libs/libzvt-2.0.1-r2  -debug 244 kB
[ebuild  N    ] dev-python/pyorbit-2.0.1  -debug 237 kB
[ebuild  N    ] gnome-base/libbonoboui-2.8.0  -debug -doc 947 kB
[ebuild  N    ]  gnome-base/libgnome-2.8.0  -debug -doc 1,136 kB
[ebuild  N    ]  gnome-base/gnome-vfs-2.8.3-r1  -debug -doc -gnutls -hal -howl -ipv6 -samba +ssl 1,936 kB
[ebuild  N    ]   app-admin/fam-2.7.0-r2  294 kB
[ebuild  N    ]    net-nds/portmap-5b-r9  -debug (-selinux) +tcpd 18 kB
[ebuild  N    ]   gnome-base/gnome-mime-data-2.4.2  -debug 829 kB
[ebuild  N    ]   gnome-base/gconf-2.8.1-r1  -debug -doc 1,690 kB
[ebuild  N    ]   media-sound/esound-0.2.34  -alsa -ipv6 +tcpd 310 kB
[ebuild  N    ]    media-libs/audiofile-0.2.6-r1  365 kB
[ebuild  N    ] gnome-base/libgnomecanvas-2.8.0  -debug -doc 565 kB
[ebuild  N    ]  media-libs/libart_lgpl-2.3.16  -debug 259 kB
[ebuild  N    ] gnome-base/libglade-2.4.0  -debug -doc 303 kB
[ebuild  N    ] gnome-base/libbonobo-2.8.0  -debug -doc 1,426 kB
[ebuild  N    ]  gnome-base/orbit-2.12.0  -debug -doc +ssl 651 kB
[ebuild  N    ]   dev-libs/libIDL-0.8.4  -debug 318 kB
[ebuild  N    ]   dev-util/indent-2.2.9-r2  +nls 662 kB
[ebuild  N    ] dev-python/pygtk-2.4.1  -debug -doc -gnome +opengl 697 kB
[ebuild  N    ] x11-libs/gtkglarea-1.99.0  -debug 205 kB
[ebuild  N    ] dev-python/pyopengl-2.0.0.44  1,251 kB
[ebuild  N    ]  media-libs/glut-3.7.1  2,479 kB
[ebuild  N    ] x11-libs/gtk+-2.6.2  -debug -doc -jpeg -static -tiff 10,969 kB
[ebuild  N    ]  x11-misc/shared-mime-info-0.14-r2  347 kB
[ebuild  N    ]  dev-libs/libxml2-2.6.16  -debug -ipv6 +python +readline 3,027 kB
[ebuild  N    ]  dev-util/intltool-0.31.2  121 kB
[ebuild  N    ]   dev-perl/XML-Parser-2.34  224 kB
[ebuild  N    ] x11-libs/pango-1.8.1  -debug -doc -static 973 kB
[ebuild  N    ] dev-libs/atk-1.8.0  -debug -doc 488 kB
[ebuild  N    ] dev-libs/glib-2.6.2-r1  -debug -doc 2,288 kB
[ebuild  N    ]   dev-util/pkgconfig-0.15.0  596 kB

Total size of downloads: 52,549 kB
Portage overlays:
 [1] /root/portage
```

Figure 4: Reduced dependency tree for gdesklets-code-20050316

4   Conclusion

gDesklets is constantly evolving and getting imporvements of all kinds, and both Christian Meyer and Martin Grimme, the co-maintainers of the software, are working on significantly reducing their dependency set:

- gnomevfs is no longer essential to gDesklets, as urllib2 can be used instead.

- bonobo use is now deprecated and will be removed in version 0.40.

- gconf will also be removed soon.

This is great news, as gDesklets evolves more and more toward a more neutral (i.e. non GNOME-centric) world view[3], and has been runing well on numerous other window managers for some time. That said, this report also shows that:

- gDesklets is not yet "GNOME free," and GNOME is a rather invasive desktop environment–once you depend on a GNOME library, you often find yourself having to install a lot of others, as they are frequently interconnected and interdependent. The earlier tree graphs shown in the 3 and 4 figures should be enough to convince anyone of that fact.

- The author was lucky enough to have a sophisticated package management system at his disposal. This kind of investigation would be possible manually, but few users would have the patience to try this by hand. Most people who want to use gDesklets will probably just install a complete GNOME desktop anyway, as other methods are time-consuming and far from straightforward for non-developers. This means that the improvements to the gDesklets codebase will go largely unnoticed unless package maintainers from the various platforms do a more precise job, which is very difficult (if not impossible) in a GNOME context because gDesklets is not the only application that a generic desktop has to care about.

- At 206 MB out of a total of 711 MB on disk ($\approx$ 29%), gDesklets is far from a light addition to the base system, even though that is already a huge improvement from the author's initial experience.

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[3]Not that there is anything wrong with that, of course, but GNOME is not the everyone's preferred environment.