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jseward@bzip.org

bzip2/libbzip2 version 1.0.4 of 20 December 2006

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## 1.7 util-linux 2.22.2

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Version 2.1, February 1999

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```
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Ty Coon, President of Vice
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## 1.8 tftp-hpa 5.2

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## 1.9 gzip 1.5

### 1.9.1 Available under license :

```
eval '(exit $?0)' && eval 'exec perl -wS -0777 -pi "$0" ${1+"$@"}'
& eval 'exec perl -wS -0777 -pi "$0" $argv:q'
if 0;
# Update an FSF copyright year list to include the current year.

my $VERSION = '2012-02-05.21:39'; # UTC

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# Written by Jim Meyering and Joel E. Denny

# The arguments to this script should be names of files that contain
# copyright statements to be updated. The copyright holder's name
```

```

# defaults to "Free Software Foundation, Inc." but may be changed to
# any other name by using the "UPDATE_COPYRIGHT_HOLDER" environment
# variable.
#
# For example, you might wish to use the update-copyright target rule
# in maint.mk from gnu lib's maintainer-makefile module.
#
# Iff a copyright statement is recognized in a file and the final
# year is not the current year, then the statement is updated for the
# new year and it is reformatted to:
#
# 1. Fit within 72 columns.
# 2. Convert 2-digit years to 4-digit years by prepending "19".
# 3. Expand copyright year intervals. (See "Environment variables"
#    below.)
#
# A warning is printed for every file for which no copyright
# statement is recognized.
#
# Each file's copyright statement must be formatted correctly in
# order to be recognized. For example, each of these is fine:
#
# Copyright @copyright{ } 1990-2005, 2007-2009 Free Software
# Foundation, Inc.
#
# # Copyright (C) 1990-2005, 2007-2009 Free Software
# # Foundation, Inc.
#
# /*
#  * Copyright &copy; 90,2005,2007-2009
#  * Free Software Foundation, Inc.
#  */
#
# However, the following format is not recognized because the line
# prefix changes after the first line:
#
# ## Copyright (C) 1990-2005, 2007-2009 Free Software
# # Foundation, Inc.
#
# However, any correctly formatted copyright statement following
# a non-matching copyright statements would be recognized.
#
# The exact conditions that a file's copyright statement must meet
# to be recognized are:
#
# 1. It is the first copyright statement that meets all of the
#    following conditions. Subsequent copyright statements are
#    ignored.

```

```

# 2. Its format is "Copyright (C)", then a list of copyright years,
#   and then the name of the copyright holder.
# 3. The "(C)" takes one of the following forms or is omitted
#   entirely:
#
#   A. (C)
#   B. (c)
#   C. @copyright{ }
#   D. &copy;
#
# 4. The "Copyright" appears at the beginning of a line, except that it
#   may be prefixed by any sequence (e.g., a comment) of no more than
#   5 characters -- including white space.
# 5. If such a prefix is present, the same prefix appears at the
#   beginning of each remaining line within the FSF copyright
#   statement. There is one exception in order to support C-style
#   comments: if the first line's prefix contains nothing but
#   whitespace surrounding a "/*", then the prefix for all subsequent
#   lines is the same as the first line's prefix except with each of
#   "/" and possibly "*" replaced by a " ". The replacement of "*"
#   by " " is consistent throughout all subsequent lines.
# 6. Blank lines, even if preceded by the prefix, do not appear
#   within the FSF copyright statement.
# 7. Each copyright year is 2 or 4 digits, and years are separated by
#   commas or dashes. Whitespace may appear after commas.
#
# Environment variables:
#
# 1. If UPDATE_COPYRIGHT_FORCE=1, a recognized FSF copyright statement
#   is reformatted even if it does not need updating for the new
#   year. If unset or set to 0, only updated FSF copyright
#   statements are reformatted.
# 2. If UPDATE_COPYRIGHT_USE_INTERVALS=1, every series of consecutive
#   copyright years (such as 90, 1991, 1992-2007, 2008) in a
#   reformatted FSF copyright statement is collapsed to a single
#   interval (such as 1990-2008). If unset or set to 0, all existing
#   copyright year intervals in a reformatted FSF copyright statement
#   are expanded instead.
#   If UPDATE_COPYRIGHT_USE_INTERVALS=2, convert a sequence with gaps
#   to the minimal containing range. For example, convert
#   2000, 2004-2007, 2009 to 2000-2009.
# 3. For testing purposes, you can set the assumed current year in
#   UPDATE_COPYRIGHT_YEAR.
# 4. The default maximum line length for a copyright line is 72.
#   Set UPDATE_COPYRIGHT_MAX_LINE_LENGTH to use a different length.
# 5. Set UPDATE_COPYRIGHT HOLDER if the copyright holder is other
#   than "Free Software Foundation, Inc.".

```

```

use strict;
use warnings;

my $copyright_re = 'Copyright';
my $circle_c_re = '(?:\([cC]\)|@copyright{ }|&copy;);';
my $holder = $ENV{UPDATE_COPYRIGHT HOLDER};
$holder ||= 'Free Software Foundation, Inc.';
my $prefix_max = 5;
my $margin = $ENV{UPDATE_COPYRIGHT_MAX_LINE_LENGTH};
!$margin || $margin !~ m/^\d+$/
and $margin = 72;

my $tab_width = 8;

my $this_year = $ENV{UPDATE_COPYRIGHT_YEAR};
if (!$this_year || $this_year !~ m/^\d{4}$/)
{
    my ($sec, $min, $hour, $mday, $month, $year) = localtime (time ());
    $this_year = $year + 1900;
}

# Unless the file consistently uses "\r\n" as the EOL, use "\n" instead.
my $eol = /(?:^[^r])\n/ ? "\n" : "\r\n";

my $leading;
my $prefix;
my $ws_re;
my $stmt_re;
while (/^(\\n){0,$prefix_max}$copyright_re/g)
{
    $leading = "$1$2";
    $prefix = $2;
    if ($prefix =~ /^(\\s*\\)*\\s*$/)
    {
        $prefix =~ s/,/,;
        my $prefix_ws = $prefix;
        $prefix_ws =~ s/^*/;/; # Only whitespace.
        if (/^G(?:[^\n]|\\n)*\\n$prefix_ws/)
        {
            $prefix = $prefix_ws;
        }
    }
}
$ws_re = '[ \\t\\r\\f]'; # \\s without \\n
$ws_re =
"(?:$ws_re*(?:$ws_re\\n" . quotemeta($prefix) . ")$ws_re*)";
my $holder_re = $holder;
$holder_re =~ s/\\s/$ws_re/g;
my $stmt_remainder_re =

```



```

"(?:$ws_re$circle_c_re)?"
."$ws_re(?:?:\d\d)?\d\d(?:?:,$ws_re?-)*"
."(?:\d\d)?\d\d)$ws_re$holder_re";
if (/^G$stmt_remainder_re/)
{
$stmt_re =
    quotemeta($leading) . "($copyright_re$stmt_remainder_re)";
    last;
}
}
if (defined $stmt_re)
{
/$stmt_re/ or die; # Should never die.
my $stmt = $1;
my $final_year_orig = $2;

# Handle two-digit year numbers like "98" and "99".
my $final_year = $final_year_orig;
$final_year <= 99
and $final_year += 1900;

if ($final_year != $this_year)
{
# Update the year.
$stmt =~ s/$final_year_orig/$final_year, $this_year/;
}
if ($final_year != $this_year || $ENV{'UPDATE_COPYRIGHT_FORCE'})
{
# Normalize all whitespace including newline-prefix sequences.
$stmt =~ s/$ws_re/ /g;

# Put spaces after commas.
$stmt =~ s/, ?, /g;

# Convert 2-digit to 4-digit years.
$stmt =~ s/(\b\d\d\b)/19$1/g;

# Make the use of intervals consistent.
if (!$ENV{'UPDATE_COPYRIGHT_USE_INTERVALS'})
{
$stmt =~ s/(\d{4})-(\d{4})/join(', ', $1..$2)/eg;
}
else
{
$stmt =~
s/
(\d{4})
(?:

```

```

(\|-)
((?){
  if ($2 eq '-') { 'd{4}'; }
  elsif (!$3)    { $1 + 1; }
  else          { $3 + 1; }
})
)+
/$1-$3/gx;

# When it's 2, emit a single range encompassing all year numbers.
$ENV{UPDATE_COPYRIGHT_USE_INTERVALS} == 2
and $stmt =~ s/^(d{4})\b.*\b(d{4})\b/$1-$2/;
}

# Format within margin.
my $stmt_wrapped;
my $text_margin = $margin - length($prefix);
if ($prefix =~ /^(t+)/)
{
  $text_margin -= length($1) * ($stab_width - 1);
}
while (length $stmt)
{
  if (($stmt =~ s/^(.{1,$text_margin})(?:|$)//)
    || ($stmt =~ s/^(|[S]+)(?:|$)//))
  {
    my $line = $1;
    $stmt_wrapped .= $stmt_wrapped ? "$eol$prefix" : $leading;
    $stmt_wrapped .= $line;
  }
  else
  {
    # Should be unreachable, but we don't want an infinite
    # loop if it can be reached.
    die;
  }
}

# Replace the old copyright statement.
s/$stmt_re/$stmt_wrapped/;
}
}
else
{
  print STDERR "$ARGV: warning: copyright statement not found\n";
}

# Local variables:

```

```
# mode: perl
# indent-tabs-mode: nil
# eval: (add-hook 'write-file-hooks 'time-stamp)
# time-stamp-start: "my $VERSION = "
# time-stamp-format: "%:y-%02m-%02d.%02H:%02M"
# time-stamp-time-zone: "UTC"
# time-stamp-end: "; # UTC"
# End:
```

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Version 3, 29 June 2007

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## 1.10 tcl 8.4.19

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## 1.11 mtd-utils 1.5.0

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bzip2/libbzip2 version 1.0.6 of 6 September 2010

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```
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```
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## 1.17 libedit 3.0

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# 1.18 elfutils 0.8.12

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## 1.19 binutils 2.23.2

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To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that

there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

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We call this license the `Lesser` General Public License because it does *Less* to protect the user's freedom than the ordinary General Public License. It also provides other free software developers *Less* of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU

operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

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@iftex

@appendixsubsec TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@end iftex

@ifinfo

@center GNU LESSER GENERAL PUBLIC LICENSE

@center TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@end ifinfo

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If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.



(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

@end enumerate

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If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

@item

A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a ``work that uses the Library''. Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a ``work that uses the Library'' with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a ``work that uses the library''. The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a ``work that uses the Library'' uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

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As an exception to the Sections above, you may also combine or link a ``work that uses the Library'' with the Library to produce a work containing portions of the Library, and distribute that work

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Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable ``work that uses the Library'', as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

@item

Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

@item

Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

@item

If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

@item

Verify that the user has already received a copy of these

materials or that you have already sent this user a copy.

@end enumerate

For an executable, the required form of the ``work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

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Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

@item

Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

@end enumerate

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@center END OF TERMS AND CONDITIONS

@end ifinfo

@page

@appendixsubsec How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the ``copyright" line and a pointer to where the full notice is found.

@smallexample

@var{one line to give the library's name and an idea of what it does.}

Copyright (C) @var{year} @var{name of author}

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@end smallexample

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a ``copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

@smallexample

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

@var{signature of Ty Coon}, 1 April 1990

Ty Coon, President of Vice

@end smallexample

That's all there is to it!

(This file is under construction.) -\*- text -\*-

If you've contributed to gas and your name isn't listed here, it is not meant as a slight. I just don't know about it. Email me, nickc@redhat.com and I'll correct the situation.

This file will eventually be deleted: The general info will go into the documentation, and info on specific files will go into an AUTHORS file, as requested by the FSF.

+++++

Dean Elsner wrote the original gas for vax. [more details?]

Jay Fenlason maintained gas for a while, adding support for gdb-specific debug information and the 68k series machines, most of the preprocessing pass, and extensive changes in messages.c, input-file.c, write.c.

K. Richard Pixley maintained gas for a while, adding various enhancements and many bug fixes, including merging support for several processors, breaking gas up to handle multiple object file format backends (including heavy rewrite, testing, an integration of the coff and b.out backends), adding configuration including heavy testing and verification of cross assemblers and file splits and renaming, converted gas to strictly ansi C including full prototypes, added



support for m680[34]0 & cpu32, considerable work on i960 including a coff port (including considerable amounts of reverse engineering), a sparc opcode file rewrite, decstation, rs6000, and hp300hpux host ports, updated "know" assertions and made them work, much other reorganization, cleanup, and lint.

Ken Raeburn wrote the high-level BFD interface code to replace most of the code in format-specific I/O modules.

The original Vax-VMS support was contributed by David L. Kashtan. Eric Youngdale and Pat Rankin have done much work with it since.

The Intel 80386 machine description was written by Eliot Dresselhaus.

Minh Tran-Le at IntelliCorp contributed some AIX 386 support.

The Motorola 88k machine description was contributed by Devon Bowen of Buffalo University and Torbjorn Granlund of the Swedish Institute of Computer Science.

Keith Knowles at the Open Software Foundation wrote the original MIPS back end (tc-mips.c, tc-mips.h), and contributed Rose format support that hasn't been merged in yet. Ralph Campbell worked with the MIPS code to support a.out format.

Support for the Zilog Z8k and Hitachi H8/300, H8/500 and SH processors (tc-z8k, tc-h8300, tc-h8500, tc-sh), and IEEE 695 object file format (obj-ieee), was written by Steve Chamberlain of Cygnus Solutions. Steve also modified the COFF back end (obj-coffbfd) to use BFD for some low-level operations, for use with the Hitachi, 29k and Zilog targets.

John Gilmore built the AMD 29000 support, added .include support, and simplified the configuration of which versions accept which pseudo-ops. He updated the 68k machine description so that Motorola's opcodes always produced fixed-size instructions (e.g. jsr), while synthetic instructions remained shrinkable (jbsr). John fixed many bugs, including true tested cross-compilation support, and one bug in relaxation that took a week and required the proverbial one-bit fix.

Ian Lance Taylor of Cygnus Solutions merged the Motorola and MIT syntaxes for the 68k, completed support for some COFF targets (68k, i386 SVR3, and SCO Unix), wrote the ECOFF support based on Michael Meissner's mips-tfile program, wrote the PowerPC and RS/6000 support, and made a few other minor patches. He handled the binutils releases for versions 2.7 through 2.9.

David Edelsohn contributed fixes for the PowerPC and AIX support.

Steve Chamberlain made gas able to generate listings.

Support for the HP9000/300 was contributed by Glenn Engel of HP.

Support for ELF format files has been worked on by Mark Eichin of Cygnus Solutions (original, incomplete implementation), Pete Hoogenboom at the University of Utah (HPPA mainly), Michael Meissner of the Open Software Foundation (i386 mainly), and Ken Raeburn of Cygnus Solutions (sparc, initial 64-bit support).

Several engineers at Cygnus Solutions have also provided many small bug fixes and configuration enhancements.

The initial Alpha support was contributed by Carnegie-Mellon University. Additional work was done by Ken Raeburn of Cygnus Solutions. Richard Henderson then rewrote much of the Alpha support.

Ian Dall updated the support code for the National Semiconductor 32000 series, and added support for Mach 3 and NetBSD running on the PC532.

Klaus Kaempf ported the assembler and the binutils to openVMS/Alpha.

Steve Haworth contributed the support for the Texas Instruction c30 (tms320c30).

H.J. Lu has contributed many patches and much testing.

Alan Modra reworked much of the i386 backend, improving the error checking, updating the code, and improving the 16 bit support, using patches from the work of Martynas Kunigelis and H.J. Lu.

Many others have contributed large or small bugfixes and enhancements. If you've contributed significant work and are not mentioned on this list, and want to be, let us know. Some of the history has been lost; we aren't intentionally leaving anyone out.

## 1.20 Isof 4.85 r1

### 1.20.1 Available under license :

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Version 2, June 1991

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- c) If the modified program normally reads commands interactively

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## 1.21 tar 1.26

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## 1.22 ncurses 5.9

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## 1.23 tcllib 1.13

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## 1.24 uclibc 0.9.33.2

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for <mps@bridge.intra>; Wed, 1 Mar 2006 20:30:53 +0100 (CET)  
Received: from mail.bridge.intra ([127.0.0.1])  
by localhost (lnx.bridge.intra [127.0.0.1]) (amavisd-new, port 10024)  
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X-Flags: 0000  
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From: Glenn Fowler <gsf@research.att.com>  
Message-Id: <200603011923.OAA86112@raptor.research.att.com>  
Organization: AT&T Research  
X-Mailer: mailx (AT&T/BSD) 9.9 2005-04-21  
Mime-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit  
References: <Pine.LNX.4.44.0603012011250.6386-100000@lnx.bridge.intra>  
To: mps@bridge.intra  
Subject: Re: testregex licensing question  
X-GMX-Antivirus: -1 (not scanned, may not use virus scanner)  
X-GMX-Antispam: 0 (Mail was not recognized as spam)  
X-GMX-UID: lJF3ZO9DeSEkJ2TcbHQhaXN1IGRvb0Ca  
X-Virus-Scanned: by amavisd-new at localhost  
Status: RO  
X-Status:  
X-Keywords:  
X-UID: 44736

you may include it directly  
retain the testregex.c header comment  
it uses a very free license to maximize distribution  
you can copy that .c comment to any test data files you use  
using # comment style to be complete

let me know how it works with your libc  
also pass on any new tests you cook up

On Wed, 1 Mar 2006 20:15:02 +0100 (CET) Peter S. Mazinger wrote:

> Hello Glenn!

> I would want to add testregex.c and the related \*.dat files to the uClibc  
> testsuite. uClibc is licensed under LGPL v2.1. I haven't found any  
> licensing related info on testregex.

> Is it allowed to use the code there, or should I accomodate the testsuite  
> to download the needed files from the original site each time it is ran?

> Thanks, Peter

> --

> Peter S. Mazinger <ps dot m at gmx dot net> ID: 0xA5F059F2  
> Key fingerprint = 92A4 31E1 56BC 3D5A 2D08 BB6E C389 975E A5F0 59F2  
Licensed under the LGPL v2.1, see the file COPYING.LIB in this tarball.

## 1.25 zlib 1.2.7

### 1.25.1 Available under license :

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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
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Jean-loup Gailly     Mark Adler

The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files <http://tools.ietf.org/html/rfc1950> (zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).

\*/

## 1.26 xinetd 2.3.15

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## 1.27 libgcc 4.7.3

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@c Set file name and title for man page.

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@c man end

This is an attempt to acknowledge early contributions to the garbage collector. Later contributions should instead be mentioned in README.changes.

## HISTORY -

Early versions of this collector were developed as a part of research projects supported in part by the National Science Foundation and the Defense Advance Research Projects Agency.

The garbage collector originated as part of the run-time system for the Russell programming language implementation. The first version of the garbage collector was written primarily by Al Demers. It was then refined and mostly rewritten, primarily by Hans-J. Boehm, at Cornell U., the University of Washington, Rice University (where it was first used for C and assembly code), Xerox PARC, SGI, and HP Labs. However, significant contributions have also been made by many others.

Some other contributors:

More recent contributors are mentioned in the modification history in README.changes. My apologies for any omissions.

The SPARC specific code was originally contributed by Mark Weiser. The Encore Multimax modifications were supplied by Kevin Kenny (kenny@m.cs.uiuc.edu). The adaptation to the IBM PC/RT is largely due to Vernon Lee, on machines made available to Rice by IBM.



Much of the HP specific code and a number of good suggestions for improving the generic code are due to Walter Underwood.

Robert Brazile (brazile@diamond.bbn.com) originally supplied the ULTRIX code.

Al Dosser (dosser@src.dec.com) and Regis Cridlig (Regis.Cridlig@cl.cam.ac.uk) subsequently provided updates and information on variation between ULTRIX systems. Parag Patel (parag@netcom.com) supplied the A/UX code.

Jesper Peterson(jep@mtiame.mtia.oz.au), Michel Schinz, and

Martin Tauchmann (martintauchmann@bigfoot.com) supplied the Amiga port.

Thomas Funke (thf@zelator.in-berlin.de(?)) and

Brian D.Carlstrom (bdc@clark.lcs.mit.edu) supplied the NeXT ports.

Douglas Steel (doug@wg.icl.co.uk) provided ICL DRS6000 code.

Bill Janssen (janssen@parc.xerox.com) supplied the SunOS dynamic loader specific code. Manuel Serrano (serrano@cornas.inria.fr) supplied linux and

Sony News specific code. Al Dosser provided Alpha/OSF/1 code. He and

Dave Detlefs(detlefs@src.dec.com) also provided several generic bug fixes.

Alistair G. Crooks(agg@uts.amdahl.com) supplied the NetBSD and 386BSD ports.

Jeffrey Hsu (hsu@soda.berkeley.edu) provided the FreeBSD port.

Brent Benson (brent@jade.ssd.csd.harris.com) ported the collector to

a Motorola 88K processor running CX/UX (Harris NightHawk).

Ari Huttunen (Ari.Huttunen@hut.fi) generalized the OS/2 port to

nonIBM development environments (a nontrivial task).

Patrick Beard (beard@cs.ucdavis.edu) provided the initial MacOS port.

David Chase, then at Olivetti Research, suggested several improvements.

Scott Schwartz (schwartz@groucho.cse.psu.edu) supplied some of the

code to save and print call stacks for leak detection on a SPARC.

Jesse Hull and John Ellis supplied the C++ interface code.

Zhong Shao performed much of the experimentation that led to the current typed allocation facility. (His dynamic type inference code hasn't made it into the released version of the collector, yet.)

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```
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```

```
<signature of Ty Coon>, 1 April 1989
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```
@ignore
@c Set file name and title for man page.
@setfilename gpl
@settitle GNU General Public License
@c man begin SEEALSO
gfdl(7), fsf-funding(7).
@c man end
@c man begin COPYRIGHT
Copyright @copyright{ } 1989, 1991 Free Software Foundation, Inc.
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```

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```
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@end enumerate
```

```
@iftex
@heading END OF TERMS AND CONDITIONS
@end iftex
@ifnottex
@center END OF TERMS AND CONDITIONS
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```
@page
@unnumberedsec Appendix: How to Apply These Terms to Your New Programs
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@var{signature of Ty Coon}, 1 April 1989

Ty Coon, President of Vice

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\* m4/ax\_func\_which\_gethostbyname\_r.m4

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@cindex LGPL, Lesser General Public License

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@page

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@ignore

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@settitle GNU Free Documentation License

@c man begin SEEALSO

gpl(7), fsf-funding(7).

@c man end

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@c hence no sectioning command or @node.

@c man end

@end ignore

@c Special handling for inclusion in the install manual.

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@ifnohtml

@comment node-name, next, previous, up

```
@node GNU Free Documentation License, Concept Index, Old, Top
@end ifnohtml
@html
<h1 align="center">Installing GCC: GNU Free Documentation License</h1>
@end html
@ifnohtml
@unnumbered GNU Free Documentation License
@end ifnohtml
@end ifset
@c man begin DESCRIPTION
@ifclear gfdlhtml
@node GNU Free Documentation License
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