**OPEN SOURCE SOFTWARE NOTICE**

The open source software notice for the open source software used in this openEuler distribution (“openEuler distribution”) is provided in this document. The open source software licenses are granted by the respective right holders. With regard to the respective open source software contained in the openEuler distribution, the applicable open source software license will prevail all other license agreement, including but not limited to the openEuler Software License, in case of any conflicts.

**Warranty Disclaimer**

**THE OPEN SOURCE SOFTWARE IN THIS OPENEULER DISTRIBUTION IS PROVIDED ON AN "AS IS" BASIS, WITHOUT ANY WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.  
See the applicable licenses for more details.**

**Copyright Notice and License Texts**

Software: perl-Tie-IxHash 1.23

**Copyright notice:**

**License:** GPL+ or Artistic

--- The GNU General Public License, Version 1, February 1989 ---

This software is Copyright (c) 2014 by Graham Barr.

This is free software, licensed under:

The GNU General Public License, Version 1, February 1989

GNU GENERAL PUBLIC LICENSE

Version 1, February 1989

Copyright (C) 1989 Free Software Foundation, Inc.

51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies

of this license document, but changing it is not allowed.

Preamble

The license agreements of most software companies try to keep users

at the mercy of those companies. By contrast, our General Public

License is intended to guarantee your freedom to share and change free

software--to make sure the software is free for all its users. The

General Public License applies to the Free Software Foundation's

software and to any other program whose authors commit to using it.

You can use it for your programs, too.

When we speak of free software, we are referring to freedom, not

price. Specifically, the General Public License is designed to make

sure that you have the freedom to give away or sell copies of free

software, that you receive source code or can get it if you want it,

that you can change the software or use pieces of it in new free

programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid

anyone to deny you these rights or to ask you to surrender the rights.

These restrictions translate to certain responsibilities for you if you

distribute copies of the software, or if you modify it.

For example, if you distribute copies of a such a program, whether

gratis or for a fee, you must give the recipients all the rights that

you have. You must make sure that they, too, receive or can get the

source code. And you must tell them their rights.

We protect your rights with two steps: (1) copyright the software, and

(2) offer you this license which gives you legal permission to copy,

distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain

that everyone understands that there is no warranty for this free

software. If the software is modified by someone else and passed on, we

want its recipients to know that what they have is not the original, so

that any problems introduced by others will not reflect on the original

authors' reputations.

The precise terms and conditions for copying, distribution and

modification follow.

GNU GENERAL PUBLIC LICENSE

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any program or other work which

contains a notice placed by the copyright holder saying it may be

distributed under the terms of this General Public License. The

"Program", below, refers to any such program or work, and a "work based

on the Program" means either the Program or any work containing the

Program or a portion of it, either verbatim or with modifications. Each

licensee is addressed as "you".

1. You may copy and distribute verbatim copies of the Program's source

code as you receive it, in any medium, provided that you conspicuously and

appropriately publish on each copy an appropriate copyright notice and

disclaimer of warranty; keep intact all the notices that refer to this

General Public License and to the absence of any warranty; and give any

other recipients of the Program a copy of this General Public License

along with the Program. You may charge a fee for the physical act of

transferring a copy.

2. You may modify your copy or copies of the Program or any portion of

it, and copy and distribute such modifications under the terms of Paragraph

1 above, provided that you also do the following:

a) cause the modified files to carry prominent notices stating that

you changed the files and the date of any change; and

b) cause the whole of any work that you distribute or publish, that

in whole or in part contains the Program or any part thereof, either

with or without modifications, to be licensed at no charge to all

third parties under the terms of this General Public License (except

that you may choose to grant warranty protection to some or all

third parties, at your option).

c) If the modified program normally reads commands interactively when

run, you must cause it, when started running for such interactive use

in the simplest and most usual way, to print or display an

announcement including an appropriate copyright notice and a notice

that there is no warranty (or else, saying that you provide a

warranty) and that users may redistribute the program under these

conditions, and telling the user how to view a copy of this General

Public License.

d) You may charge a fee for the physical act of transferring a

copy, and you may at your option offer warranty protection in

exchange for a fee.

Mere aggregation of another independent work with the Program (or its

derivative) on a volume of a storage or distribution medium does not bring

the other work under the scope of these terms.

3. You may copy and distribute the Program (or a portion or derivative of

it, under Paragraph 2) in object code or executable form under the terms of

Paragraphs 1 and 2 above provided that you also do one of the following:

a) accompany it with the complete corresponding machine-readable

source code, which must be distributed under the terms of

Paragraphs 1 and 2 above; or,

b) accompany it with a written offer, valid for at least three

years, to give any third party free (except for a nominal charge

for the cost of distribution) a complete machine-readable copy of the

corresponding source code, to be distributed under the terms of

Paragraphs 1 and 2 above; or,

c) accompany it with the information you received as to where the

corresponding source code may be obtained. (This alternative is

allowed only for noncommercial distribution and only if you

received the program in object code or executable form alone.)

Source code for a work means the preferred form of the work for making

modifications to it. For an executable file, complete source code means

all the source code for all modules it contains; but, as a special

exception, it need not include source code for modules which are standard

libraries that accompany the operating system on which the executable

file runs, or for standard header files or definitions files that

accompany that operating system.

4. You may not copy, modify, sublicense, distribute or transfer the

Program except as expressly provided under this General Public License.

Any attempt otherwise to copy, modify, sublicense, distribute or transfer

the Program is void, and will automatically terminate your rights to use

the Program under this License. However, parties who have received

copies, or rights to use copies, from you under this General Public

License will not have their licenses terminated so long as such parties

remain in full compliance.

5. By copying, distributing or modifying the Program (or any work based

on the Program) you indicate your acceptance of this license to do so,

and all its terms and conditions.

6. Each time you redistribute the Program (or any work based on the

Program), the recipient automatically receives a license from the original

licensor to copy, distribute or modify the Program subject to these

terms and conditions. You may not impose any further restrictions on the

recipients' exercise of the rights granted herein.

7. The Free Software Foundation may publish revised and/or new versions

of the General Public License from time to time. Such new versions will

be similar in spirit to the present version, but may differ in detail to

address new problems or concerns.

Each version is given a distinguishing version number. If the Program

specifies a version number of the license which applies to it and "any

later version", you have the option of following the terms and conditions

either of that version or of any later version published by the Free

Software Foundation. If the Program does not specify a version number of

the license, you may choose any version ever published by the Free Software

Foundation.

8. If you wish to incorporate parts of the Program into other free

programs whose distribution conditions are different, write to the author

to ask for permission. For software which is copyrighted by the Free

Software Foundation, write to the Free Software Foundation; we sometimes

make exceptions for this. Our decision will be guided by the two goals

of preserving the free status of all derivatives of our free software and

of promoting the sharing and reuse of software generally.

NO WARRANTY

9. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY

FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN

OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES

PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED

OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF

MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS

TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE

PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,

REPAIR OR CORRECTION.

10. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING

WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR

REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,

INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING

OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED

TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY

YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER

PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE

POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest

possible use to humanity, the best way to achieve this is to make it

free software which everyone can redistribute and change under these

terms.

To do so, attach the following notices to the program. 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.

<one line to give the program's name and a brief idea of what it does.>

Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify

it under the terms of the GNU General Public License as published by

the Free Software Foundation; either version 1, or (at your option)

any later version.

This program is distributed in the hope that it will be useful,

but WITHOUT ANY WARRANTY; without even the implied warranty of

MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the

GNU General Public License for more details.

You should have received a copy of the GNU General Public License

along with this program; if not, write to the Free Software

Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston MA 02110-1301 USA

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

If the program is interactive, make it output a short notice like this

when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19xx name of author

Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.

This is free software, and you are welcome to redistribute it

under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the

appropriate parts of the General Public License. Of course, the

commands you use may be called something other than `show w' and `show

c'; they could even be mouse-clicks or menu items--whatever suits your

program.

You should also get your employer (if you work as a programmer) or your

school, if any, to sign a "copyright disclaimer" for the program, if

necessary. Here a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the

program `Gnomovision' (a program to direct compilers to make passes

at assemblers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

That's all there is to it!

--- The Artistic License 1.0 ---

This software is Copyright (c) 2014 by Graham Barr.

This is free software, licensed under:

The Artistic License 1.0

The Artistic License

Preamble

The intent of this document is to state the conditions under which a Package

may be copied, such that the Copyright Holder maintains some semblance of

artistic control over the development of the package, while giving the users of

the package the right to use and distribute the Package in a more-or-less

customary fashion, plus the right to make reasonable modifications.

Definitions:

- "Package" refers to the collection of files distributed by the Copyright

Holder, and derivatives of that collection of files created through

textual modification.

- "Standard Version" refers to such a Package if it has not been modified,

or has been modified in accordance with the wishes of the Copyright

Holder.

- "Copyright Holder" is whoever is named in the copyright or copyrights for

the package.

- "You" is you, if you're thinking about copying or distributing this Package.

- "Reasonable copying fee" is whatever you can justify on the basis of media

cost, duplication charges, time of people involved, and so on. (You will

not be required to justify it to the Copyright Holder, but only to the

computing community at large as a market that must bear the fee.)

- "Freely Available" means that no fee is charged for the item itself, though

there may be fees involved in handling the item. It also means that

recipients of the item may redistribute it under the same conditions they

received it.

1. You may make and give away verbatim copies of the source form of the

Standard Version of this Package without restriction, provided that you

duplicate all of the original copyright notices and associated disclaimers.

2. You may apply bug fixes, portability fixes and other modifications derived

from the Public Domain or from the Copyright Holder. A Package modified in such

a way shall still be considered the Standard Version.

3. You may otherwise modify your copy of this Package in any way, provided that

you insert a prominent notice in each changed file stating how and when you

changed that file, and provided that you do at least ONE of the following:

a) place your modifications in the Public Domain or otherwise make them

Freely Available, such as by posting said modifications to Usenet or an

equivalent medium, or placing the modifications on a major archive site

such as ftp.uu.net, or by allowing the Copyright Holder to include your

modifications in the Standard Version of the Package.

b) use the modified Package only within your corporation or organization.

c) rename any non-standard executables so the names do not conflict with

standard executables, which must also be provided, and provide a separate

manual page for each non-standard executable that clearly documents how it

differs from the Standard Version.

d) make other distribution arrangements with the Copyright Holder.

4. You may distribute the programs of this Package in object code or executable

form, provided that you do at least ONE of the following:

a) distribute a Standard Version of the executables and library files,

together with instructions (in the manual page or equivalent) on where to

get the Standard Version.

b) accompany the distribution with the machine-readable source of the Package

with your modifications.

c) accompany any non-standard executables with their corresponding Standard

Version executables, giving the non-standard executables non-standard

names, and clearly documenting the differences in manual pages (or

equivalent), together with instructions on where to get the Standard

Version.

d) make other distribution arrangements with the Copyright Holder.

5. You may charge a reasonable copying fee for any distribution of this

Package. You may charge any fee you choose for support of this Package. You

may not charge a fee for this Package itself. However, you may distribute this

Package in aggregate with other (possibly commercial) programs as part of a

larger (possibly commercial) software distribution provided that you do not

advertise this Package as a product of your own.

6. The scripts and library files supplied as input to or produced as output

from the programs of this Package do not automatically fall under the copyright

of this Package, but belong to whomever generated them, and may be sold

commercially, and may be aggregated with this Package.

7. C or perl subroutines supplied by you and linked into this Package shall not

be considered part of this Package.

8. The name of the Copyright Holder may not be used to endorse or promote

products derived from this software without specific prior written permission.

9. THIS PACKAGE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED

WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF

MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The End

**Written Offer**

This openEuler distribution may contain certain software whose rights holders license it on the terms of the GNU General Public License, version 2 (GPLv2) or other open source software licenses which require us to release corresponding source code. We will provide you and any third party with corresponding source code required under applicable open source software license through the repository: https://gitee.com/src-openeuler/. You can access and obtain corresponding source code by searching the aforementioned repository using package name and tag.

This offer is valid to anyone in receipt of this information.

**THIS OFFER IS VALID FOR THREE YEARS FROM THE MOMENT WE DISTRIBUTED THIS OPENEULER DISTRIBUTION .**