**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:** geos 3.9.0

**Copyright notice:**

Copyright (C) 2016 Daniel Baston  
Copyright (C) 2005 2006 Refractions Research Inc.  
Copyright (C) 2009 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2008-2010 Safe Software Inc.  
Copyright (C) 2019 Paul Ramsey <pramsey@cleverelephant.ca>  
Copyright (C) 2005-2006 Refractions Research Inc.  
Copyright (C) 2014 Mika Heiskanen <mika.heiskanen@fmi.fi>  
Copyright (C) 2019 Even Rouault <even.rouault@spatialys.com>  
Copyright (C) 2016 Shinichi SUGIYAMA (shin.sugi@gmail.com)  
Copyright (C) 2013 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2009 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2018 Daniel Baston <dbaston@gmail.com>  
Copyright (C) 2001-2009 Vivid Solutions Inc.  
Copyright (C) 2018 Paul Ramsey <pramsey@cleverelephant.ca>  
Copyright (C) 2018 Vicky Vergara  
Copyright (C) 2009 Mateusz Loskot  
Copyright (C) 2010 2011 Sandro Santilli <strk@kbt.io>  
Copyright 2011-2014 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2012 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2012 Excensus LLC.  
Copyright (C) 2009-2010 Sandro Santilli <strk@kbt.io>  
Copyright (c) 1995 Olivier Devillers <Olivier.Devillers@sophia.inria.fr>  
Copyright (C) 2007-2010 Safe Software Inc.  
Copyright (C) 2002 Scott Kirkwood.  
Copyright (C) 2008 Sean Gillies  
Copyright (C) 2013-2020 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2019 Paul Ramsey <pramsey@cleverlephant.ca>  
Copyright (c) 2018 by Jim Pattee <jimp03@email.com>.  
Copyright (C) 2019 Martin Davis <mtnclimb@gmail.com>  
Copyright (C) 2012 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2001-2002 Vivid Solutions Inc.  
Copyright (C) 2006 Refractions Research Inc.  
Copyright (C) 2019 Daniel Baston <dbaston@gmail.com  
Copyright (C) 2016-2019 Daniel Baston <dbaston@gmail.com>  
Copyright (c) 1995 by INRIA Prisme Project BP 93 06902 Sophia Antipolis Cedex, France.  
Copyright 1998-2001 by Neil Hodgson <neilh@scintilla.org>  
Copyright (C) 2005-2011 Refractions Research Inc.  
Copyright (C) 2011 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2006-2011 Refractions Research Inc.  
Copyright (C) 2006-2007 Refractions Research Inc.  
Copyright (C) 2010 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2011 Sandro Santilli <strk@kbt.io  
Copyright (C) 2009 2011 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2010 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2006 Refractions Research  
Copyright (C) 2005-2007 Refractions Research Inc.  
Copyright (C) 1991, 1999 Free Software Foundation, Inc.  
Copyright (C) 2006 Refractions Research Inc.  
Copyright (C) 2005 Refractions Research Inc.  
Copyright (C) 2019 Nicklas Larsson  
Copyright (C) 2014 Mateusz Loskot <mateusz@loskot.net>  
Copyright (C) 2020 Paul Ramsey <pramsey@cleverelephant.ca>  
Copyright (C) 2009 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2010 Safe Software Inc.  
Copyright (C) 2018-2019 Mateusz Loskot <mateusz@loskot.net>  
Copyright (C) 2005-2009 Refractions Research Inc.  
Copyright (C) 2010-2012 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2007 Refractions Research Inc.  
Copyright (C) 2018 Mateusz Loskot <mateusz@loskot.net>  
Copyright (C) 2018 Paul Ramsey <pramsey@cleverlephant.ca>  
Copyright (C) 2019 Daniel Baston <dbaston@gmail.com>  
Copyright (C) 2009-2011 Sandro Santilli <strk@kbt.io>  
Copyright 2009-2010 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2015 Nyall Dawson <nyall dot dawson at gmail dot com>  
Copyright (C) 2019 Daniel Baston  
Copyright (C) 2011 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2009 Ragi Y. Burhum <ragi@burhum.com>  
Copyright (C) 2017 Mateusz Loskot <mateusz@loskot.net>  
Copyright (C) 2009-2011 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2020 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2020 Crunchy Data  
Copyright (C) 2020 Paul Ramsey  
Copyright (C) 2009 Sandro Santilli <strk@kbt.io>  
Copyright (C) 1996, 1997, 1998, 1999, 2000, 2001, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011 Free Software Foundation, Inc.  
Copyright (C) 2011 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2009 Mateusz Loskot <mateusz@loskot.net>  
Copyright (C) 2009 2011 Sandro Santilli <strk@kbt.io>  
Copyright (C) 2016 Shinichi SUGIYAMA <shin.sugi@gmail.com>

**License:** LGPLv2

The GNU General Public License (GPL) Version 2, June 1991  
  
Copyright (C) 1989, 1991 Free Software Foundation, Inc.  
51 Franklin Street, Fifth Floor  
Boston, MA 02110-1335  
USA  
  
Everyone is permitted to copy and distribute verbatim copies  
of this license document, but changing it is not allowed.  
  
Preamble  
  
The licenses for most software are designed to take away your freedom to  
share and change it. By contrast, the GNU 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. This General Public  
License applies to most of the Free Software Foundation's software and  
to any other program whose authors commit to using it. (Some other Free  
Software Foundation software is covered by the GNU Library General  
Public License instead.) You can apply it to your programs, too.  
  
When we speak of free software, we are referring to freedom, not price.  
Our General Public Licenses are designed to make sure that you have the  
freedom to distribute copies of free software (and charge for this  
service if you wish), 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 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 show them these terms so they know 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.  
  
Finally, any free program is threatened constantly by software patents.  
We wish to avoid the danger that redistributors of a free program will  
individually obtain patent licenses, in effect making the program  
proprietary. To prevent this, we have made it clear that any patent must  
be licensed for everyone's free use or not licensed at all.  
  
The precise terms and conditions for copying, distribution and  
modification follow.  
  
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION  
  
0. This License 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 derivative work under copyright law: that is  
to say, a work containing the Program or a portion of it, either  
verbatim or with modifications and/or translated into another language.  
(Hereinafter, translation is included without limitation in the term  
"modification".) Each licensee is addressed as "you".  
  
Activities other than copying, distribution and modification are not  
covered by this License; they are outside its scope. The act of running  
the Program is not restricted, and the output from the Program is  
covered only if its contents constitute a work based on the Program  
(independent of having been made by running the Program). Whether that  
is true depends on what the Program does.  
  
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 License and to the absence of any warranty; and give any other  
recipients of the Program a copy of this License along with the Program.  
  
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.  
  
2. You may modify your copy or copies of the Program or any portion of  
it, thus forming a work based on the Program, and copy and distribute  
such modifications or work under the terms of Section 1 above, provided  
that you also meet all of these conditions:  
  
 a) You must cause the modified files to carry prominent notices  
 stating that you changed the files and the date of any change.  
  
 b) You must cause any work that you distribute or publish, that in  
 whole or in part contains or is derived from the Program or any part  
 thereof, to be licensed as a whole at no charge to all third parties  
 under the terms of this License.  
  
 c) If the modified program normally reads commands interactively  
 when run, you must cause it, when started running for such  
 interactive use in the most ordinary 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 License.  
 (Exception: if the Program itself is interactive but does not  
 normally print such an announcement, your work based on the Program  
 is not required to print an announcement.)  
  
These requirements apply to the modified work as a whole. If  
identifiable sections of that work are not derived from the Program, and  
can be reasonably considered independent and separate works in  
themselves, then this License, and its terms, do not apply to those  
sections when you distribute them as separate works. But when you  
distribute the same sections as part of a whole which is a work based on  
the Program, the distribution of the whole must be on the terms of this  
License, whose permissions for other licensees extend to the entire  
whole, and thus to each and every part regardless of who wrote it.  
  
Thus, it is not the intent of this section to claim rights or contest  
your rights to work written entirely by you; rather, the intent is to  
exercise the right to control the distribution of derivative or  
collective works based on the Program.  
  
In addition, mere aggregation of another work not based on the Program  
with the Program (or with a work based on the Program) on a volume of a  
storage or distribution medium does not bring the other work under the  
scope of this License.  
  
3. You may copy and distribute the Program (or a work based on it,  
under Section 2) in object code or executable form under the terms of  
Sections 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 Sections 1  
 and 2 above on a medium customarily used for software interchange; or,  
  
 b) Accompany it with a written offer, valid for at least three  
 years, to give any third party, for a charge no more than your cost  
 of physically performing source distribution, a complete  
 machine-readable copy of the corresponding source code, to be  
 distributed under the terms of Sections 1 and 2 above on a medium  
 customarily used for software interchange; or,  
  
 c) Accompany it with the information you received as to the offer to  
 distribute corresponding source code. (This alternative is allowed  
 only for noncommercial distribution and only if you received the  
 program in object code or executable form with such an offer, in  
 accord with Subsection b above.)  
  
The source code for a work means the preferred form of the work for  
making modifications to it. For an executable work, complete source code  
means all the source code for all modules it contains, plus any  
associated interface definition files, plus the scripts used to control  
compilation and installation of the executable. However, as a special  
exception, the source code 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.  
  
If distribution of executable or 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 counts as distribution of the source  
code, even though third parties are not compelled to copy the source  
along with the object code.  
  
4. You may not copy, modify, sublicense, or distribute the Program  
except as expressly provided under this License. Any attempt otherwise  
to copy, modify, sublicense or distribute the Program is void, and will  
automatically terminate your rights under this License. However, parties  
who have received copies, or rights, from you under this License will  
not have their licenses terminated so long as such parties remain in  
full compliance.  
  
5. You are not required to accept this License, since you have not  
signed it. However, nothing else grants you permission to modify or  
distribute the Program or its derivative works. These actions are  
prohibited by law if you do not accept this License. Therefore, by  
modifying or distributing 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 for copying, distributing or modifying the  
Program or works based on it.  
  
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. You are not  
responsible for enforcing compliance by third parties to this License.  
  
7. If, as a consequence of a court judgment or allegation of patent  
infringement or for any other reason (not limited to patent issues),  
conditions are imposed on you (whether by court order, agreement or  
otherwise) that contradict the conditions of this License, they do not  
excuse you from the conditions of this License. If you cannot distribute  
so as to satisfy simultaneously your obligations under this License and  
any other pertinent obligations, then as a consequence you may not  
distribute the Program at all. For example, if a patent license would  
not permit royalty-free redistribution of the Program by all those who  
receive copies directly or indirectly through you, then the only way you  
could satisfy both it and this License would be to refrain entirely from  
distribution of the Program.  
  
If any portion of this section is held invalid or unenforceable under  
any particular circumstance, the balance of the section is intended to  
apply and the section as a whole is intended to apply in other  
circumstances.  
  
It is not the purpose of this section to induce you to infringe any  
patents or other property right claims or to contest validity of any  
such claims; this section has the sole purpose of protecting the  
integrity of the free software distribution system, which is implemented  
by public license practices. Many people have made generous  
contributions to the wide range of software distributed through that  
system in reliance on consistent application of that system; it is up to  
the author/donor to decide if he or she is willing to distribute  
software through any other system and a licensee cannot impose that choice.  
  
This section is intended to make thoroughly clear what is believed to be  
a consequence of the rest of this License.  
  
8. If the distribution and/or use of the Program is restricted in  
certain countries either by patents or by copyrighted interfaces, the  
original copyright holder who places the Program under this License may  
add an explicit geographical distribution limitation excluding those  
countries, so that distribution is permitted only in or among countries  
not thus excluded. In such case, this License incorporates the  
limitation as if written in the body of this License.  
  
9. 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 this 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 this License, you may choose any version ever published by the  
Free Software Foundation.  
  
10. 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  
  
11. 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.  
  
12. 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  
  
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 the public, 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) <year> <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 2 of the License, 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 02110-1335 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) year 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 is a sample; alter the names:  
  
 Yoyodyne, Inc., hereby disclaims all copyright interest in the  
 program `Gnomovision' (which makes passes at compilers) written by  
 James Hacker.  
  
 signature of Ty Coon, 1 April 1989  
 Ty Coon, President of Vice  
  
This General Public License does not permit incorporating your program  
into proprietary programs. If your program is a subroutine library, you  
may consider it more useful to permit linking proprietary applications  
with the library. If this is what you want to do, use the GNU Library  
General Public License instead of this License.

**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 .**