Oracle® Communications EAGLE LNP Application Processor

Licensing Information User Manual Release 10.1.x E76224 Revision 8

April 2020



Oracle® Communications EAGLE LNP Application Processor Licensing Information User Manual, Release 10.1.x

Copyright © 200, 2020 Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notices are applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

E76224 Revision 8 2 April 2020

Table of Contents

1.	Introductio	n	4
2.	Licensing I	nformation	4
3.	Oracle Cor	nmunications EAGLE LNP Application Processor – Licensing Notes	4
4.	Oracle Cor	nmunications Common Signaling – Licensing Notes	5
5.	Oracle Cor	nmunications EAGLE LNP Application Processor – Licensing Notes – Legacy	6
6.	Third-Party	Notices and/or Licenses	10
7.	Written Off	er for Source Code	11
8.	Open Sour	ce Software	11
Apı	oendix A.	The ACE License	23
Apı	oendix B.	Artistic License (Perl) 1.0	24
	Preamble		24
Арј	oendix C.	Artistic License 1.0	26
	Preamble		26
Apı	oendix D.	Artistic License 2.0	27
	Preamble		28
	Permission	for Use and Modification Without Distribution	28
	Permissions	s for Redistribution of the Standard Version	28
	Distribution	of Modified Versions of the Package as Source	29
		of Compiled Forms of the Standard Version or Modified Versions without the Source .	
		g or Linking the Package	
		are Not Considered Part of a Modified Version	
		visions	
Apı		General Public License 2.0 (GPL 2.0)	
		Conditions for Copying, Distribution and Modification	
		ANTYly These Terms to Your New Programs	
۸		•	
Aþļ	pendix F.	Lesser General Public License 2.1 (LGPL 2.1)	
		Conditions for Copying, Distribution, and Modification	
		ANTY	
		ly These Terms to Your New Libraries	
Apı	pendix G.	Library General Public License 2.0 (Library GPL 2.0)	
•			
		Conditions for Copying, Distribution and Modification	
		y	
	How to App	ly These Terms to Your New Libraries	47

1. Introduction

This Licensing Information document is a part of the product or program documentation under the terms of your Oracle license agreement and is intended to help you understand the program editions, entitlements, restrictions, prerequisites, and/or separately licensed third party technology terms associated with the Oracle software program(s) covered by this document (the "Program(s)"). Entitled or restricted use products or components identified in this document that are not provided with the particular Program may be obtained from the Oracle Software Delivery Cloud website (https://edelivery.oracle.com) or from media Oracle may provide. If you have a question about your license rights and obligations, please contact your Oracle sales representative, review the information provided in Oracle's Software Investment Guide (http://www.oracle.com/us/corporate/pricing/software-investment-guide/index.html), and/or contact the applicable Oracle License Management Services representative listed on http://www.oracle.com/us/corporate/license-management-services/index.html.

2. Licensing Information

- Description of Product Editions and Permitted Features
- Prerequisite Products
- Entitled Products and Restricted Use Licenses

3. Oracle Communications EAGLE LNP Application Processor – Licensing Notes

Product	Subproduct	Licensing Information
Oracle Communications EAGLE LNP Application Processor	Oracle Communications EAGLE LNP Application Processor - Integrated	Product Editions and Permitted Features This license entitles the Oracle Communications EAGLE LNP Application Processor on the Oracle Communications Application B card, including the maximum number of Transactions Per Second (TPS) that this card can support. Prerequisite Products
	Software Option – per Card Metric	This software in this license interoperates with an Oracle Communications EAGLE node as well as an Oracle Communications LSMS. In addition, Oracle Communications EAGLE LNP Advanced Service Module Enabler – Integrated Software Option as well as Oracle Communications EAGLE LNP Application Processor – Database Capacity are also required. If applicable, a suitable Oracle Communications EAGLE LNP legacy license is required.
		Entitled Products and Restricted Use Licenses
		A license to Oracle Communications EAGLE LNP Application Processor includes a restricted-use license to MySQL Enterprise Edition. MySQL Enterprise Edition may be used solely to deploy and run this subproduct.

Product	Subproduct	Licensing Information
	Oracle Communications EAGLE LNP Application Processor Database Capacity - Integrated Software Option - per 12M Entries Metric	Product Editions and Permitted Features This license entitles database capacity for the Local Number Portability (LNP) entries. Each instance of this license provides 12M entries. Prerequisite Products This software in this license interoperates with an Oracle Communications EAGLE node as well as an Oracle Communications LSMS. In addition, Oracle Communications EAGLE LNP Advanced Service Module Enabler – Integrated Software Option as well as Oracle Communications EAGLE LNP Application Processor – Integrated Software Option are also required. If applicable, a suitable Oracle Communications EAGLE LNP legacy license is required. Entitled Products and Restricted Use Licenses None.

4. Oracle Communications Common Signaling – Licensing Notes

Product	Subproduct	Licensing Information	
Product Oracle Communications Common Signaling	Oracle Communications Common Signaling for Database Applications – per 25K Subscribers	Product Editions and Permitted Features Provides database applications on the Oracle Communications EAGLE and determines the number of database entries on the EAGLE Application Processors. Provides access on a node basis to the following database applications: Local Number Portability Mobile Number Portability Intra Network Number Portability HLR Router Equipment Identity Register Provides access on a per card basis to the LNP Advanced Service Module Enabler, the Advanced Service Module Enabler, the LNP Application Processor Provisioning and the Application Processor Nonprovisioning. Sold on a per subscriber basis which equates to one database entry in the Application Processors.	
		Provisioning and the Application Processor Nonprovisioning. Sold on a per subscriber basis which equates to one database	

Product	Subproduct	Licensing Information
		Or suitable Oracle Communications EAGLE legacy license
		Entitled Products and Restricted Use Licenses
		MySQL Enterprise Edition is included for use with Oracle Communications Common Signaling. Use of MySQL Enterprise Edition, including without limitation MySQL Enterprise Backup, is restricted to use with Common Signaling.

5. Oracle Communications EAGLE LNP Application Processor -Licensing Notes – Legacy

Product	Subproduct	Licensing Information
Oracle Communications EAGLE LNP	RTU_EAGLE_VERSION INDEPENDENT_LICENSE DB TRANSACTION ANSI PER E5-SM_1 DOCUMENT	This subproduct is for EAGLE LNP DB transactions for ANSI per E5-SM. Restrictions: This product SKU is for legacy customer applications only.
	RTU_EAGLE_RESTRICTED ANSI DB TRANSACTIONS _LICENSE_PER E5-SM	This subproduct is for EAGLE LNP restricted ANSI DB transactions per E5-SM. Restrictions: This product SKU is for legacy customer applications only.
	RTU_EAGLE_ANSI DB TRANSACTION UPGRADE TO MAXIMUM TRANSACTIONS_ LICENSE_PER E5-SM	This subproduct is for EAGLE LNP ANSI DB transactions to upgrade to the maximum transactions per E5-SM. Restrictions: This product SKU is for legacy customer applications only.
	RTU_EAGLE_41.1 OR LATER_LICENSE 6,800 ANSI DB TRANSACTIONS PER SECOND PER E5- SM_INVOICE ONLY	This subproduct is for EAGLE LNP 41.1 or later for 6,800 ANSI DB transactions per second per E5-SM. Restrictions: This product SKU is for legacy customer applications only.
	RTU_EAGLE_41.1 OR LATER_LICENSE 5,000 TO 6,800 ANSI DB TRANSACTIONS PER SECOND PER E5-SM UPGRADE_INVOICE ONLY	This subproduct is for EAGLE LNP 41.1 or later for an upgrade from 5,000 to 6,800 ANSI DB transactions per second per E5-SM. Restrictions: This product SKU is for legacy customer applications only.

Product	Subproduct	Licensing Information
	EAGLE_ <number> ANSI DATABASE TPS PER E5- SM_RTU_INVOICE ONLY</number>	This subproduct is for EAGLE LNP for a number of ANSI DB transactions per second per E5-SM: 10,000
		• 13,600
		Restrictions:
		This product SKU is for legacy customer applications only.
	EAGLE_ <range> ANSI DATABASE TPS PER E5-SM UPGRADE_RTU_INVOICE ONLY</range>	This subproduct is for EAGLE LNP for an upgrade for ANSI DB transactions per second per E5-SM: 6,800 TO 10,000
	ONLI	• 10,000 TO 13,600
		Restrictions:
		This product SKU is for legacy customer applications only.
	EAGLE_ELAP E5-APP-B SOFTWARE_RTU_INVOICE	This subproduct is for EAGLE ELAP E5-APP-B software invoice.
	ONLY	Restrictions:
		This product SKU is for legacy customer applications only.
	EAGLE_ELAP OS TPD SOFTWARE_RTU_INVOICE ONLY	This subproduct is for EAGLE ELAP OS TPD software.
	ONLT	Restrictions: This product SKU is for legacy customer applications only.
	EAGLE_ELAP PERFORMANCE SOFTWARE_RTU_INVOICE	This subproduct is for EAGLE ELAP Performance software.
	ONLY	Restrictions: This product SKU is for legacy customer
		applications only.
	EAGLE_NPA-NXX TABLE INCREASE 300_000	This is a feature access key for EAGLE NPA-NXX table increase of 300K entries.
	ENTRIES_FEATURE ACCESS KEY	Restrictions:
	ACCESS NET	This product SKU is for legacy customer applications only.
	EAGLE_ <range> LNP RECORDS_FEATURE</range>	These are Feature Access Keys for incremental amounts of LNP records:
	ACCESS KEY_1 DOCUMENT	• UP TO 12M
		• >12 TO 24M
		• >24 TO 36M
		• >36M TO 48M
		• >48M TO 60M

E76224 Revision 8 7 April 2020

Product	Subproduct	Licensing Information
		• >60M TO 72M
		• >72M TO 84M
		• >84M TO 96M
		• >96M TO 108M
		• >108M TO 120M
		• >120M TO 132M
		• >132M TO 144M
		• >144M TO 156M
		• >156M TO 168M
		• >168M TO 180M
		• >180M TO 192M
		• >192M TO 204M
		• >204M TO 216M
		• >216M TO 228M
		• >228M TO 240M
		• >240M TO 252M
		• >252M TO 264M
		• >264M TO 276M
		• >276M TO 288M
		• >288M TO 300M
		• >300M TO 312M
		• >312M TO 324M
		• >324M TO 336M
		• >336M TO 348M
		• >348M TO 360M
		• >360M TO 372M
		• >372M TO 384M
		Restrictions:
		These product SKUs are for legacy customer applications only.
	SW_DSM 4G_36 TO 48M	This subproduct is for 4G DSM 36 to 48M.
		Restrictions:
		This product SKU is for legacy customer applications only.

E76224 Revision 8 8 April 2020

Product	Subproduct	Licensing Information
	971 SOFTWARE FEATURE MODULE SUPPORT 12 MILLION PORTED NUMBERS EAGLE	This subproduct is for the support of 12M ported numbers. Restrictions: This product SKU is for legacy customer applications only.
	971 SOFTWARE FEATURE MODULE SUPPORT UP TO 12 MILLION RECORDS EAGLE	This subproduct is for up to 12M records. Restrictions: This product SKU is for legacy customer applications only.
	971 DOCUMENT POD FEATURE MODULE <size> NUMBERS UPGRADE LSMS</size>	This subproduct is for the support of a range of numbers for an upgrade: 12-24M
		24-36M36-48M
		Restrictions:
		These product SKUs are for legacy customer applications only.
	DOCUMENT_POD_FEATURE MODULE_LNP <range> RECORD UPGRADE_PER NODE_EAGLE</range>	This subproduct is for the support of a range of numbers for an upgrade per node: • 12M-24M
		• 24M-36M
		• 36M-48M
		Restrictions: These product SKUs are for legacy customer applications only.
	SOFTWARE FEATURE MODULE 60 MILLION NUMBERS LSMS	This subproduct is for the support of a certain number of LSMS entries: • 60M
		• 72M
		• 84M
		• 96M
		Restrictions: These product SKUs are for legacy customer applications only.

E76224 Revision 8 9 April 2020

Product	Subproduct	Licensing Information
	RTU_FEATURE_ <number> MILLION NUMBERS_LSMS</number>	This subproduct is for the support of a certain number of LSMS entries:
		• 108M
		• 120M
		• 132M
		• 144M
		• 156M
		• 180M
		• 192M
		• 204M
		• 228M
		Restrictions:
		These product SKUs are for legacy customer applications only.
	RTU_LSMS_11.0 OR LATER_LICENSE 240 MILLION NUMBERS_1	This subproduct is for the support of a certain number of LSMS entries for release 11.0 or later: • 240M
	DOCUMENT	• 252M
		• 264M
		• 276M
		• 288M
		• 300M
		• 312M
		• 324M
		• 336M
		• 348M
		• 360M
		• 372M
		• 384M
		Restrictions:
		These product SKUs are for legacy customer applications only.

6. Third-Party Notices and/or Licenses

None

7. Written Offer for Source Code

For third party technology that you receive from Oracle in binary form which is licensed under an open source license that gives you the right to receive the source code for that binary, you can obtain a copy of the applicable source code from this page. If the source code for the technology was not provided to you with the binary, you can also receive a copy of the source code on physical media by submitting a written request to:

- Oracle America, Inc.
- Attn: Associate General Counsel
- Development and Engineering Legal
- 500 Oracle Parkway, 10th Floor
- Redwood Shores, CA 94065

Or, you may send an email to Oracle using this form. Your request should include:

- The name of the component or binary file(s) for which you are requesting the source code
- The name and version number of the Oracle product
- The date you received the Oracle product
- Your name
- Your company name (if applicable)
- Your return mailing address and email
- A telephone number in the event we need to reach you.

We may charge you a fee to cover the cost of physical media and processing. Your request must be sent (i) within three (3) years of the date you received the Oracle product that included the component or binary file(s) that are the subject of your request, or (ii) in the case of code licensed under the GPL v3, for as long as Oracle offers spare parts or customer support for that product model.

8. Open Source Software

Required notices for open source software products or components distributed in this product are identified in the following tables along with the applicable licensing information. Additional notices and/or licenses may be found in the included documentation or readme files of the individual third party open source software.

Provider	Components(s)	Licensing Information	ELAP Release
Douglas C.	ace v. 6.0.1	A copy of the ACE license appears below.	10.1.0.0.0
Schmidt			10.1.1.0.0
			10.1.2.0.0
			10.1.3.0.0
			10.1.4.0.0
			10.1.5.0.0
Linbit	drbd v. 8.3.11	Copyright (C) 2001-2008, LINBIT Information	10.1.0.0.0
Information		Technologies GmbH. Copyright (C) 2001-2008, Philipp Reisner	10.1.1.0.0
Technologies			10.1.2.0.0
		<pre><philipp.reisner@linbit.com>.</philipp.reisner@linbit.com></pre>	10.1.3.0.0
		Copyright (C) 2002-2008, Lars Ellenberg lars.ellenberg@linbit.com .	10.1.4.0.0
		National Solid Particular Solid Property Control of the Control of	10.1.5.0.0

Provider	Components(s)	Licensing Information	ELAP Release
		A copy of the GPL 2.0 License appears below.	
JCraft, Inc.	jcterm v. 0.0.9	You are receiving a copy of the JCterm v. 0.0.9 in both source and object code. The terms of the Oracle license do NOT apply to the JCterm v. 0.0.9; it is licensed under the following license, separately from the Oracle programs you receive.	10.1.0.0.0
		A copy of the LGPL 2.1 License appears below.	
JCraft, Inc.	jcterm v. 0.0.11	You are receiving a copy of the JCterm v. 0.0.11 in both source and object code. The terms of the Oracle license do NOT apply to the JCterm v. 0.0.11; it is licensed under the following license, separately from the Oracle programs you receive. A copy of the LGPL 2.1 License appears below.	10.1.1.0.0 10.1.2.0.0 10.1.3.0.0 10.1.4.0.0 10.1.5.0.0
JCraft, Inc.	JSch v. 0.1.38	Copyright (c) 2002,2003,2004,2005,2006,2007,2008 Atsuhiko Yamanaka, JCraft, Inc. All rights reserved. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. 3. The names of the authors may not be used to endorse or promote products derived from this software without specific prior written permission. THIS SOFTWARE IS PROVIDED ``AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL JCRAFT, INC. OR ANY CONTRIBUTORS TO THIS SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF	10.1.0.0.0

Provider	Components(s)	Licensing Information	ELAP Release
		ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.	
JCraft, Inc.	JSch v. 0.1.54	 Copyright (c) 2002-2014 Atsuhiko Yamanaka, JCraft, Inc. All rights reserved. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. 3. The names of the authors may not be used to endorse or promote products derived from this software without specific prior written permission. THIS SOFTWARE IS PROVIDED ``AS IS" AND 	10.1.1.0.0 10.1.2.0.0 10.1.3.0.0 10.1.4.0.0
		ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL JCRAFT, INC. OR ANY CONTRIBUTORS TO THIS SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.	
JCraft, Inc.	JSch v. 0.1.55	Copyright (c) 2002-2015 Atsuhiko Yamanaka, JCraft Inc. All rights reserved. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. 2. Redistributions in binary form must reproduce the above copyright notice, this list of	10.1.5.0.0

Provider	Components(s)	Licensing Information	ELAP Release
		conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.	
		The names of the authors may not be used to endorse or promote products derived from this software without specific prior written permission.	
		THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL JCRAFT, INC. OR ANY CONTRIBUTORS TO THIS SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.	
JCraft, Inc.	JZlib v. 1.1.3	Copyright (c) 2000-2011 ymnk, JCraft, Inc. All rights reserved. Redistribution and use in source and binary forms, with or without modification, are permitted provided	10.1.1.0.0 10.1.2.0.0 10.1.3.0.0
		that the following conditions are met: 1. Redistributions of source code must retain the above copyright notice, this list of conditions, and the following disclaimer.	10.1.4.0.0
		2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.	
		3. The names of the authors may not be used to endorse or promote products derived from this software without specific prior written permission.	
		THIS SOFTWARE IS PROVIDED ``AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL JCRAFT, INC. OR ANY CONTRIBUTORS TO	

E76224 Revision 8 April 2020 14

Provider	Components(s)	Licensing Information	ELAP Release
		THIS SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.	
Benjamin Trott	perl-Class- ErrorHandler v. 0.04	Copyright (c) 2013 by Benjamin Trott, cpan@stupidfool.org. A copy of the Artistic License (Perl) 1.0 appears below.	10.1.0.0.0
Vipul Ved Prakash	perl-Class- Loader v. 2.03	Copyright (c) 2001, Vipul Ved Prakash. All rights reserved. Copyright (c) 1998-2000, Vipul Ved Prakash. All rights reserved. Copyright (C) 1993-2005, by Larry Wall and others. A copy of the Artistic License 1.0 appears below.	10.1.0.0.0
Vipul Ved Prakash	perl-Convert- ASCII-Armour v. 1.4	Copyright (c) 2001, Vipul Ved Prakash. All rights reserved. A copy of the Artistic License 2.0 appears below.	10.1.0.0.0
Benjamin Trott	perl-Convert- PEM v. 0.08	Copyright Benjamin Trott, cpan@stupidfool.org. All rights reserved. A copy of the Artistic License (Perl) 1.0 appears below.	10.1.0.0.0
Systemics Ltd	perl-Crypt- Blowfish v. 2.14	This perl extension includes software developed by, and copyright of, A.M. Kuchling: Copyright (C) 1995, A.M. Kuchling Distribute and use freely; there are no restrictions on further dissemination and usage except those imposed by the laws of your country of residence. Other parts of the library are covered by the following licence: Copyright (C) 1995, 1996 Systemics Ltd (http://www.systemics.com/) Modifications and Current Implimentation Copyright (C) 2000 W3Works, LLC. All rights reserved. Current implementation contains modifications made by W3Works, LLC. The modifications remain copyright of W3Works, LLC and attribution for these modification should be made to	10.1.0.0.0

E76224 Revision 8 15 April 2020

Provider	Components(s)	Licensing Information	ELAP Release
		W3Works, LLC. These modifications and this	
		copyright must remain with this package.	
		Additions to the Restrictions set out below are:	
		All advertising materials mentioning features or use of this software must display the following acknowledgement:	
		This product includes software developed by W3Works, LLC (http://www.w3works.com)	
		NO ADDITIONAL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A	
		PARTICULAR PURPOSE ARE EXTENDED BY THIS DISTRIBUTION.	
		Any subsequent derrivations of this package must retain this copyright.	
		Original Copyright Below	
		This library and applications are FREE FOR COMMERCIAL AND NON-COMMERCIAL USE as long as the following conditions are adhered to.	
		Copyright remains with Systemics Ltd, and as such any Copyright notices in the code are not to be removed. If this code is used in a product, Systemics should be given attribution as the author of the parts used. This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package.	
		Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:	
		Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.	
		2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.	
		All advertising materials mentioning features or use of this software must display the following acknowledgement:	
		This product includes software developed by Systemics Ltd (http://www.systemics.com/) THIS SOFTWARE IS PROVIDED BY SYSTEMICS LTD ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN	

Provider	Components(s)	Licensing Information	ELAP Release
		NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. The licence and distribution terms for any publically available version or derivative of this code cannot be changed, i.e., this code cannot simply be copied and put under another distribution licence [including the GNU Public Licence.]	
Lincoln D. Stein	perl-Crypt-CBC v. 2.33	A copy of the Artistic License 1.0 appears below.	10.1.0.0.0
Benjamin Trott	perl-Crypt- DES_EDE3 v. 0.01	Copyright 2001 Benjamin Trott, ben@rhumba.pair.com. All rights reserved. A copy of the Artistic License 2.0 appears below.	10.1.0.0.0
Christian Walde	perl-Crypt-DH v. 0.06	Copyright (c) 2012 the Crypt::DH "Benjamin Trott (cpan:BTROTT) ken+cpan@stupidfool.org> Brad Fitzpatrick (cpan:BRADFITZ) and BinGOs - Chris Williams (cpan:BINGOS) <chris@bingonet.co.uk> Mithaldu - Christian Walde (cpan: MITHALDU) walde.christian@googlemail.com Copyright 1998-2003 Gisle Aas. Copyright 1990-1992 RSA Data Security, Inc. A copy of the Artistic License (Perl) 1.0 appears below.</chris@bingonet.co.uk>	10.1.0.0.0
Benjamin Trott	perl-Crypt-DSA v. 1.17	Copyright 2006 - 2011 Benjamin Trott. A copy of the Artistic License (Perl) 1.0 appears below.	10.1.0.0.0
Systemics Ltd	perl-Crypt-IDEA v. 1.10	This library is covered by the following licence: Original Source: Copyright (C) 1995, 1996 Systemics Ltd (http://www.systemics.com/) All rights reserved. Modifications: Copyright (C) 2000-2006 W3Works, LLC All Rights Reserved This library and applications are FREE FOR	10.1.0.0.0

Provider	Components(s)	Licensing Information	ELAP Release
		COMMERCIAL AND NON-COMMERCIAL USE as long as the following conditions are adhered to.	
		Copyright remains with Systemics Ltd & W3Works	
		LLC respectively, and as such any Copyright	
		notices in the code are not to be removed. If this	
		code is used in a product, Systemics & W3Works	
		should be given attribution as the author of the parts used. This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package.	
		Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:	
		Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.	
		2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.	
		All advertising materials mentioning features or use of this software must display the following acknowledgement:	
		This product includes software developed by Systemics Ltd (http://www.systemics.com/) and W3Works, LLC	
		THIS SOFTWARE IS PROVIDED BY SYSTEMICS LTD ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN	
		NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES	
		(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER	
		CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH	
		DAMAGE.	
		The licence and distribution terms for any publically available version or derivative of this code cannot be changed, i.e., this code cannot simply be copied	

Provider	Components(s)	Licensing Information	ELAP Release
		and put under another distribution licence [including the GNU Public Licence.]	
Vipul Ved Prakash	perl-Crypt- Primes v. 0.50	Copyright (c) 1998-2001, Vipul Ved Prakash. All rights reserved.	10.1.0.0.0
		A copy of the Artistic License (Perl) 1.0 appears below.	
Vipul Ved Prakash	perl-Crypt- Random v. 1.25	Copyright (c) 1998-2001, Vipul Ved Prakash. All rights reserved.	10.1.0.0.0
		A copy of the Artistic License 2.0 appears below.	
Vipul Ved Prakash	perl-Crypt-RSA v. 1.99	Copyright (c) 1998-2001, Vipul Ved Prakash. All rights reserved.	10.1.0.0.0
		A copy of the Artistic License 2.0 appears below.	
Benjamin Trott	perl-Data-Buffer v. 0.04	Copyright 2006 - 2009 Adam Kennedy. A copy of the Artistic License 2.0 appears below.	10.1.0.0.0
Patrick Galbraith Michiel Beijen Alexey Stroganov Rudolf Lippan Jochen Wiedmann	perl-DBD- MySQL v. 4.033	Copyright (c) 2004-2014 Patrick Galbraith Copyright (c) 2013-2014 Michiel Beijen Copyright (c) 2004-2007 Alexey Stroganov Copyright (c) 2003-2005 Rudolf Lippan Copyright (c) 1997-2003 Jochen Wiedmann A copy of the Artistic License 1.0 appears below.	10.1.0.0.0
Patrick Galbraith Michiel Beijen Alexey Stroganov Rudolf Lippan Jochen Wiedmann	perl-DBD- MySQL v. 4.041	 Perl5 is Copyright (C) 1993-2005, by Larry Wall and others. It is free software; you can redistribute it and/or modify it under the terms of either: 1. the GNU General Public License as published by the Free Software Foundation; either version 1, or (at your option) any later version, or 2. the "Artistic License". As a Perl project, mysql v. 4.0.41 is dually licensed under GPL or Artistic License version 1.0. Oracle elects to license this file available under the Artistic License as expressly permitted by the Perl licensing terms. Copyright (c) 2015 by Patrick Galbraith, Michiel Beijen and all other contributors Copyright (c) 2004-2014 Patrick Galbraith Copyright (c) 2013-2014 Michiel Beijen Copyright (c) 2004-2007 Alexey Stroganov Copyright (c) 2003-2005 Rudolf Lippan Copyright (c) 1997-2003 Jochen Wiedmann A copy of the Artistic License 1.0 appears below. 	10.1.1.0.0 10.1.2.0.0
Patrick	perl-DBD-	Perl5 is Copyright (C) 1993-2005, by Larry Wall	10.1.3.0.0
Lauton	Per-ppp-	i ono is copyright (o) 1995-2005, by Larry Wall	10.1.5.0.0

E76224 Revision 8 19 April 2020

Provider	Components(s)	Licensing Information	ELAP Release
Galbraith Michiel Beijen Alexey Stroganov Rudolf Lippan Jochen Wiedmann	MySQL v. 4.046	and others. It is free software; you can redistribute it and/or modify it under the terms of either: 1. the GNU General Public License as published by the Free Software Foundation; either version 1, or (at your option) any later version, or 2. the "Artistic License". As a Perl project, mysql v. 4.0.41 is dually licensed under GPL or Artistic License version 1.0. Oracle elects to license this file available under the Artistic License as expressly permitted by the Perl licensing terms. Copyright (c) 2015 by Patrick Galbraith, Michiel Beijen and all other contributors Copyright (c) 2004-2014 Patrick Galbraith Copyright (c) 2013-2014 Michiel Beijen Copyright (c) 2004-2007 Alexey Stroganov Copyright (c) 2003-2005 Rudolf Lippan Copyright (c) 1997-2003 Jochen Wiedmann A copy of the Artistic License 1.0 appears below.	10.1.4.0.0
Patrick Galbraith Michiel Beijen Alexey Stroganov Rudolf Lippan Jochen Wiedmann	perl-DBD- MySQL v. 4.050	Perl5 is Copyright (C) 1993-2005, by Larry Wall and others. It is free software; you can redistribute it and/or modify it under the terms of either: 1. the GNU General Public License as published by the Free Software Foundation; either version 1, or (at your option) any later version, or 2. the "Artistic License". As a Perl project, mysql v. 4.0.41 is dually licensed under GPL or Artistic License version 1.0. Oracle elects to license this file available under the Artistic License as expressly permitted by the Perl licensing terms. Copyright (c) 2015 by Patrick Galbraith, Michiel Beijen and all other contributors Copyright (c) 2004-2014 Patrick Galbraith Copyright (c) 2013-2014 Michiel Beijen Copyright (c) 2003-2005 Rudolf Lippan Copyright (c) 1997-2003 Jochen Wiedmann A copy of the Artistic License 1.0 appears below.	10.1.5.0.0
Gisle Aas RSA Data Security, Inc.	perl-Digest-MD2 v. 2.03	Copyright 1998-2003 Gisle Aas. Copyright 1990-1992 RSA Data Security, Inc. A copy of the Artistic License 1.0 appears below.	10.1.0.0.0
	_	†	1

Provider	Components(s)	Licensing Information	ELAP Release
Ellefsen Adam Kennedy	v. 1.09	Some parts copyright 2009 Adam Kennedy. A copy of the Artistic License 1.0 appears below.	
R. Barrie Slaymaker, Jr. Ricardo Signes	perl-IPC-Run3 v. 0.048	Copyright 2003, R. Barrie Slaymaker, Jr., All Rights Reserved A copy of the Artistic License 2.0 appears below.	10.1.0.0.0
James H. Turner	perl-Math-GMP v. 2.07	You are receiving or may download a copy of the perl-Math-GMP v 2.07 in both source and object code. The terms of the Oracle license do NOT apply to the program pearl-Math-GMP v 2.07; it is licensed under the following license, separately from the Oracle programs you receive. A copy of the Library GPL 2.0 License appears below.	10.1.0.0.0
Ilya Zakharevich	perl-Math-Pari v. 2.010808	Perl-Math-Pari is available under *either* the terms of the GPL license *or* the Perl Artistic. However, it uses GP/PARI code, which is purely GPL, therefore: Oracle elects to license perl-math-pari under the GPL v2.	10.1.0.0.0
		Math-Pari-2.010808\README:	
		Math::Pari is the PERL interface to the PARI part of GP/PARI (version 2.*). The info about GP/PARI is on http://www.parigp-home.de/	
		Integer part and the first 4 digits after the point in the version of Math::Pari reflect the latest version of GP/PARI it was tested with. (2.01080* still fully supports only 2.1.7, but mostly works with 2.3.* too.)	
		The next paragraph is an excerpt from documentation inside Pari.pm:	
		Package Math::Pari is a Perl interface to famous library PARI for numerical/scientific/number-theoretic calculations. It allows use of most PARI functions (>500) as Perl functions, and (almost) seamless merging of PARI and Perl data.	
		The code is distributed with the same license as Perl (i.e., Artistic or or GPL); however, it uses GP/PARI code, which is purely GPL.	
		Perl:	
		Perl5 is Copyright (C) 1993-2005, by Larry Wall and others.	
		It is free software; you can redistribute it and/or modify it under the terms of either:	
		the GNU General Public License as published by the Free Software Foundation; either external linkversion 1, or (at your option) any	

Provider	Components(s)	Licensing Information	ELAP Release
		later versionexternal link, or	
		2. the "Artistic License".	
		http://pari.math.u-bordeaux.fr/faq.html:	
		PARI/GP is free software. It is released under GNU's General Public License (GPL for short) as published by the Free Software Fundation, either version 2 of the License, or (at your option) any later version. A copy of the GPL 2.0 License appears below.	
Benjamin Trott David Rolsky David Robins	perl-Net-SFTP v. 0.10	Copyright (c) 2001-2003 Benjamin Trott. Copyright (c) 2003-2004 David Rolsky. Copyright (c) David Robins. All rights reserved. A copy of the Artistic License 2.0 appears below.	10.1.0.0.0
Benjamin Trott David Rolsky David Robins	perl-Net-SSH- Perl v. 1.37	Copyright (c) 2001-2003 Benjamin Trott. Copyright (c) 2003-2004 David Rolsky. Copyright (c) David Robins. All rights reserved. A copy of the Artistic License 2.0 appears below.	10.1.0.0.0
Ken Williams	perl-Probe-Perl v. 0.03	Copyright (c) 2013 by Ken Williams A copy of the Artistic License 1.0 appears below.	10.1.0.0.0
Kenneth J. Albanowski Jonathan Stow and others	Perl- TermReadKey v. 2.37	Copyright (C) 1994-1999 Kenneth Albanowski. 2001-2016 Jonathan Stowe and others A copy of the Artistic License (Perl) 1.0 appears below.	10.1.1.0.0 10.1.2.0.0 10.1.3.0.0 10.1.4.0.0
Kenneth J. Albanowski Jonathan Stow and others	Perl- TermReadKey v. 2.38	Copyright (C) 1994-1999 Kenneth Albanowski. 2001-2016 Jonathan Stowe and others A copy of the Artistic License (Perl) 1.0 appears below.	10.1.5.0.0
Adam Kennedy	perl-Test-Script v. 1.07	Copyright 2006 - 2009 Adam Kennedy. A copy of the Artistic License 2.0 appears below.	10.1.0.0.0
Vipul Ved Prakash	perl-Tie- EncryptedHash v. 1.24	Copyright (c) 2000, Vipul Ved Prakash. All rights reserved. A copy of the Artistic License (Perl) 1.0 appears below.	10.1.0.0.0
The Board of Trustees of the University of Illinois	UDT (UDP- based Data Transfer) v. 4.6	Copyright (c) 2001 - 2009, The Board of Trustees of the University of Illinois. All rights reserved. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:	10.1.5.0.0

Provider	Components(s)	Licensing Information	ELAP Release
		Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.	
		 Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. 	
		 Neither the name of the University of Illinois nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission. 	
		THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY	
		DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,	
		PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.	

Appendix A. The ACE License

ACE(TM), TAO(TM), CIAO(TM), DAnCE>(TM), and CoSMIC(TM) (henceforth referred to as "DOC software") are copyrighted by Douglas C. Schmidt and his research group at Washington University, University of California, Irvine, and Vanderbilt University, Copyright (c) 1993-2009, all rights reserved.

Copyright and Licensing Information for ACE(TM), TAO(TM), CIAO(TM), DAnCE(TM), and CoSMIC(TM)

ACE(TM), TAO(TM), CIAO(TM), DAnCE>(TM), and CoSMIC(TM) (henceforth referred to as "DOC software") are copyrighted by Douglas C. Schmidt and his research group at Washington University, University of California, Irvine, and Vanderbilt University, Copyright (c) 1993-2009, all rights reserved. Since DOC software is open-source, freely available software, you are free to use, modify, copy, and distribute--perpetually and irrevocably--the DOC software source code and object code produced from the source, as well as copy and distribute modified versions of this software. You must, however, include this copyright statement along with any code built using DOC software that you release. No copyright statement needs to be provided if you just ship binary executables of your software products.

You can use DOC software in commercial and/or binary software releases and are under no obligation to redistribute any of your source code that is built using DOC software. Note, however, that you may not misappropriate the DOC software code, such as copyrighting it yourself or claiming authorship of the DOC software code, in a way that will prevent DOC software from being distributed freely using an open-source development model. You needn't inform anyone that you're using DOC software in your software, though we encourage you to let us know so we can promote your project in the DOC software success stories.

The ACE, TAO, CIAO, DAnCE, and CoSMIC web sites are maintained by the DOC Group at the Institute for Software Integrated Systems (ISIS) and the Center for Distributed Object Computing of Washington University, St. Louis for the development of open-source software as part of the open-source software community. Submissions are provided by the submitter ``as is" with no warranties whatsoever, including any warranty of merchantability, noninfringement of third party intellectual property, or fitness for any particular purpose. In no event shall the submitter be liable for any direct, indirect, special, exemplary, punitive, or consequential damages, including without limitation, lost profits, even if advised of the possibility of such damages. Likewise, DOC software is provided as is with no warranties of any kind, including the warranties of design, merchantability, and fitness for a particular purpose, noninfringement, or arising from a course of dealing, usage or trade practice. Washington University, UC Irvine, Vanderbilt University, their employees, and students shall have no liability with respect to the infringement of copyrights, trade secrets or any patents by DOC software or any part thereof. Moreover, in no event will Washington University, UC Irvine, or Vanderbilt University, their employees, or students be liable for any lost revenue or profits or other special, indirect and consequential damages.

DOC software is provided with no support and without any obligation on the part of Washington University, UC Irvine, Vanderbilt University, their employees, or students to assist in its use, correction, modification, or enhancement. A number of companies around the world provide commercial support for DOC software, however. DOC software is Y2K-compliant, as long as the underlying OS platform is Y2K-compliant. Likewise, DOC software is compliant with the new US daylight savings rule passed by Congress as "The Energy Policy Act of 2005," which established new daylight savings times (DST) rules for the United States that expand DST as of March 2007. Since DOC software obtains time/date and calendaring information from operating systems users will not be affected by the new DST rules as long as they upgrade their operating systems accordingly.

The names ACE(TM), TAO(TM), CIAO(TM), DAnCE(TM), CoSMIC(TM), Washington University, UC Irvine, and Vanderbilt University, may not be used to endorse or promote products or services derived from this source without express written permission from Washington University, UC Irvine, or Vanderbilt University. This license grants no permission to call products or services derived from this source ACE(TM), TAO(TM), CIAO(TM), DAnCE(TM), or CoSMIC(TM), nor does it grant permission for the name Washington University, UC Irvine, or Vanderbilt University to appear in their names.

If you have any suggestions, additions, comments, or questions, please let me know.

Douglas C. Schmidt

Appendix B. Artistic License (Perl) 1.0

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.

0. 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 as specified below.

"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 uunet.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.
 - accompany the distribution with the machine-readable source of the Package with your modifications.
 - c. give non-standard executables non-standard names, and clearly document 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. You may embed this Package's interpreter within an executable of yours (by linking); this shall be construed as a mere form of aggregation, provided that the complete Standard Version of the interpreter is so embedded.
- 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 whoever

E76224 Revision 8 25 April 2020

generated them, and may be sold commercially, and may be aggregated with this Package. If such scripts or library files are aggregated with this Package via the so-called "undump" or "unexec" methods of producing a binary executable image, then distribution of such an image shall neither be construed as a distribution of this Package nor shall it fall under the restrictions of Paragraphs 3 and 4, provided that you do not represent such an executable image as a Standard Version of this Package.

- 7. C subroutines (or comparably compiled subroutines in other languages) supplied by you and linked into this Package in order to emulate subroutines and variables of the language defined by this Package shall not be considered part of this Package, but are the equivalent of input as in Paragraph 6, provided these subroutines do not change the language in any way that would cause it to fail the regression tests for the language.
- 8. Aggregation of this Package with a commercial distribution is always permitted provided that the use of this Package is embedded; that is, when no overt attempt is made to make this Package's interfaces visible to the end user of the commercial distribution. Such use shall not be construed as a distribution of this Package.
- 9. The name of the Copyright Holder may not be used to endorse or promote products derived from this software without specific prior written permission.
- 10. 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.

Appendix C. 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.

0. 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.
 - 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.

Appendix D. Artistic License 2.0

Artistic License 2.0

Copyright (c) 2000-2006, The Perl Foundation.

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

This license establishes the terms under which a given free software Package may be copied, modified, distributed, and/or redistributed. The intent is that the Copyright Holder maintains some artistic control over the development of that Package while still keeping the Package available as open source and free software.

You are always permitted to make arrangements wholly outside of this license directly with the Copyright Holder of a given Package. If the terms of this license do not permit the full use that you propose to make of the Package, you should contact the Copyright Holder and seek a different licensing arrangement.

Definitions

"Copyright Holder" means the individual(s) or organization(s) named in the copyright notice for the entire Package.

"Contributor" means any party that has contributed code or other material to the Package, in accordance with the Copyright Holder's procedures.

"You" and "your" means any person who would like to copy, distribute, or modify the Package.

"Package" means the collection of files distributed by the Copyright Holder, and derivatives of that collection and/or of those files. A given Package may consist of either the Standard Version, or a Modified Version.

"Distribute" means providing a copy of the Package or making it accessible to anyone else, or in the case of a company or organization, to others outside of your company or organization.

"Distributor Fee" means any fee that you charge for Distributing this Package or providing support for this Package to another party. It does not mean licensing fees.

"Standard Version" refers to the Package if it has not been modified, or has been modified only in ways explicitly requested by the Copyright Holder.

"Modified Version" means the Package, if it has been changed, and such changes were not explicitly requested by the Copyright Holder.

"Original License" means this Artistic License as Distributed with the Standard Version of the Package, in its current version or as it may be modified by The Perl Foundation in the future.

"Source" form means the source code, documentation source, and configuration files for the Package.

"Compiled" form means the compiled bytecode, object code, binary, or any other form resulting from mechanical transformation or translation of the Source form.

Permission for Use and Modification Without Distribution

1. You are permitted to use the standard version and create and use Modified Versions for any purpose without restriction, provided that you do not distribute the modified version.

Permissions for Redistribution of the Standard Version

You may distribute verbatim copies of the Source form of the Standard Version of this Package in any
medium without restriction, either gratis or for a Distributor Fee, provided that you duplicate all of the
original copyright notices and associated disclaimers. At your discretion, such verbatim copies may
or may not include a Compiled form of the Package.

3. You may apply any bug fixes, portability changes, and other modifications made available from the Copyright Holder. The resulting Package will still be considered the Standard Version, and as such will be subject to the Original License.

Distribution of Modified Versions of the Package as Source

- 4. You may Distribute your Modified Version as Source (either gratis or for a Distributor Fee, and with or without a Compiled form of the Modified Version) provided that you clearly document how it differs from the Standard Version, including, but not limited to, documenting any non-standard features, executables, or modules, and provided that you do at least ONE of the following:
 - a. make the Modified Version available to the Copyright Holder of the Standard Version, under the Original License, so that the Copyright Holder may include your modifications in the Standard Version.
 - b. ensure that installation of your Modified Version does not prevent the user installing or running the Standard Version. In addition, the Modified Version must bear a name that is different from the name of the Standard Version.
 - c. allow anyone who receives a copy of the Modified Version to make the Source form of the Modified Version available to others under
 - i. the Original License or
 - ii. a license that permits the licensee to freely copy, modify and redistribute the Modified Version using the same licensing terms that apply to the copy that the licensee received, and requires that the Source form of the Modified Version, and of any works derived from it, be made freely available in that license fees are prohibited but Distributor Fees are allowed.

Distribution of Compiled Forms of the Standard Version or Modified **Versions without the Source**

- 5. You may Distribute Compiled forms of the Standard Version without the Source, provided that you include complete instructions on how to get the Source of the Standard Version. Such instructions must be valid at the time of your distribution. If these instructions, at any time while you are carrying out such distribution, become invalid, you must provide new instructions on demand or cease further distribution. If you provide valid instructions or cease distribution within thirty days after you become aware that the instructions are invalid, then you do not forfeit any of your rights under this license.
- 6. You may Distribute a Modified Version in Compiled form without the Source, provided that you comply with Section 4 with respect to the Source of the Modified Version.

Aggregating or Linking the Package

- 7. You may aggregate the Package (either the Standard Version or Modified Version) with other packages and Distribute the resulting aggregation provided that you do not charge a licensing fee for the Package. Distributor Fees are permitted, and licensing fees for other components in the aggregation are permitted. The terms of this license apply to the use and Distribution of the Standard or Modified Versions as included in the aggregation.
- 8. You are permitted to link Modified and Standard Versions with other works, to embed the Package in a larger work of your own, or to build stand-alone binary or bytecode versions of applications that include the Package, and Distribute the result without restriction, provided the result does not expose a direct interface to the Package.

Items That are Not Considered Part of a Modified Version

9. Works (including, but not limited to, modules and scripts) that merely extend or make use of the Package, do not, by themselves, cause the Package to be a Modified Version. In addition, such works are not considered parts of the Package itself, and are not subject to the terms of this license.

General Provisions

- 10. Any use, modification, and distribution of the Standard or Modified Versions is governed by this Artistic License. By using, modifying, or distributing the Package, you accept this license. Do not use, modify, or distribute the Package, if you do not accept this license.
- 11. If your Modified Version has been derived from a Modified Version made by someone other than you, you are nevertheless required to ensure that your Modified Version complies with the requirements of this license.
- 12. This license does not grant you the right to use any trademark, service mark, tradename, or logo of the Copyright Holder.
- 13. This license includes the non-exclusive, worldwide, free-of-charge patent license to make, have made, use, offer to sell, sell, import and otherwise transfer the Package with respect to any patent claims licensable by the Copyright Holder that are necessarily infringed by the Package. If you institute patent litigation (including a cross-claim or counterclaim) against any party alleging that the Package constitutes direct or contributory patent infringement, then this Artistic License to you shall terminate on the date that such litigation is filed.
- 14. Disclaimer of Warranty: THE PACKAGE IS PROVIDED BY THE COPYRIGHT HOLDER AND CONTRIBUTORS "AS IS' AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES. THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT ARE DISCLAIMED TO THE EXTENT PERMITTED BY YOUR LOCAL LAW. UNLESS REQUIRED BY LAW, NO COPYRIGHT HOLDER OR CONTRIBUTOR WILL BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING IN ANY WAY OUT OF THE USE OF THE PACKAGE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Appendix E. **General Public License 2.0 (GPL 2.0)**

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.

51 Franklin Street, 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 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 Lesser 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

- O. 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.

E76224 Revision 8 33 April 2020

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.

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 an idea of what it does.

Copyright (C) yyyy 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 02110-1301, 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) 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 Lesser General Public License instead of this License.

Appendix F. Lesser General Public License 2.1 (LGPL 2.1)

GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.

51 Franklin Street, 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.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, 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 and use pieces of it in new free programs; and that you are informed that you can do these things.

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.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is guite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

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 nonfree 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.

The precise terms and conditions for copying, distribution, and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library." The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

Terms and Conditions for Copying, Distribution, and Modification

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you."

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification.")

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, 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 library.

Activities other than copying, distribution, and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

 You may copy and distribute verbatim copies of the Library's complete 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 distribute a copy of this License along with the Library.

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 Library or any portion of it, thus forming a work based on the Library, 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. The modified work must itself be a software library.
 - b. You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
 - c. You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
 - d. 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.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, does 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 Library, 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 Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

- 3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.
 - Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.
 - This option is useful when you wish to copy part of the code of the Library into a program that is not a library.
- 4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you 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.
 - 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.
- 5. 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.
- 6. 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 under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.
 - You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:
 - a. 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.)
- b. 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 interfacecompatible with the version that the work was made with.
- c. 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.
- d. 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.
- e. Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

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.

- 7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:
 - a. 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.
 - b. 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.
- 8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library 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.
- 9. 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 Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.
- 10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with, or modify the Library 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 with this License.
- 11. 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

E76224 Revision 8 39 April 2020 License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library 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 Library.

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.

- 12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library 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.
- 13. The Free Software Foundation may publish revised and/or new versions of the Lesser 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 Library 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 Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.
- 14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, 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

- 15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "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 LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
- 16. 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 LIBRARY 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 LIBRARY (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 LIBRARY TO OPERATE WITH ANY OTHER

SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

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.

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

Copyright (C) year name of author

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library 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 Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; 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.

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:

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

Signature of Ty Coon, 1 April 1990

Ty Coon, President of Vice

That's all there is to it!

Appendix G. **Library General Public License 2.0 (Library GPL 2.0)**

GNU LIBRARY GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1991 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.

[This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some specially designated Free Software Foundation software, and to any other libraries whose authors decide to use it. You can use it for your libraries, 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 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 a program 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.

Our method of protecting your rights has two steps: (1) copyright the library, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library. If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, 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 companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution, and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library." The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

Terms and Conditions for Copying, Distribution and Modification

0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Library General Public License (also called "this License"). Each licensee is addressed as "you."

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library," below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification.")

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, 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 library.

Activities other than copying, distribution, and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

 You may copy and distribute verbatim copies of the Library's complete 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 distribute a copy of this License along with the Library.

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 Library or any portion of it, thus forming a work based on the Library, 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. The modified work must itself be a software library.
 - b. You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
 - c. You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
 - d. 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.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, 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 Library, 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 Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

- 3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.
 - Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

- 4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you 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.
 - 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.
- 5. 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.)

E76224 Revision 8 44 April 2020

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.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a. 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.)
- b. 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.
- c. 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.
- d. Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

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 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.

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.

- 7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:
 - a. 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.
 - b. 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.
- You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library 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.

E76224 Revision 8 45 April 2020

- 9. 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 Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.
- 10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with, or modify the Library 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.
- 11. 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 Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library 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 Library.

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.

- 12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library 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.
- 13. The Free Software Foundation may publish revised and/or new versions of the Library 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 Library 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 Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.
- 14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, 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.

E76224 Revision 8 46 April 2020

No Warranty

- 15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "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 LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
- 16. 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 LIBRARY 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 LIBRARY (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 LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

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.

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

Copyright (C) year name of author

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation: either version 2 of the License, or (at your option) any later version.

This library 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 Library General Public License for more details.

You should have received a copy of the GNU Library General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301, USA.

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:

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

signature of Ty Coon, 1 April 1990

Ty Coon, President of Vice

That's all there is to it!