**OPEN SOURCE SOFTWARE NOTICE**

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

**Warranty Disclaimer**

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

**Copyright Notice and License Texts**

**Software:** kae 2.0.4

**Copyright notice:**

Copyright (c) 2016-2020, Przemyslaw Skibinski, Yann Collet, Facebook, Inc.  
Copyright (c) 1997, 1999, 2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1996-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2016 Tino Reichardt All rights reserved.  
Copyright (c) 2002, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1999, 2001-2002, 2006-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1992-1993 Jean-loup Gailly.  
Copyright (c) 1995-2003 Mark Adler For conditions of distribution and use, see  
Copyright 2011 Google Inc. All Rights Reserved.  
Copyright 2006, Google Inc.  
Copyright (c) 2000-2008 Marc Alexander Lehmann <schmorp@schmorp.de>  
Copyright (c) 2003, 2012, 2013 Mark Adler For conditions of distribution and use, see  
Copyright 2003-2023 Free Software Foundation, Inc.  
Copyright 2011-2022 The OpenSSL Project Authors. All Rights Reserved.  
Copyright 2015 Google Inc. All Rights Reserved.  
Copyright 2009 Neal Norwitz All Rights Reserved.  
Copyright 2012-2023 Free Software Foundation, Inc.  
Copyright (c) 2013-2015, Yann Collet  
Copyright 2024 Huawei Technologies Co.,Ltd. All rights reserved.  
Copyright 2021-2023 Free Software Foundation, Inc.  
Copyright (c) 2015-present, Yann Collet, Facebook, Inc.  
Copyright (c) 1989-2023 Free Software Foundation, Inc.  
Copyright (c) 2011, 2016 Mark Adler For conditions of distribution and use, see  
Copyright (c) 1997-2000, 2002-2004, 2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2019-2023 Free Software Foundation, Inc.  
Copyright (c) 2007, 2008, 2012 Mark Adler Version 1.4 18 August 2012 Mark Adler  
Copyright (c) huawei technologies co., ltd. 2010-2019. all rights reserved.  
Copyright 2020, Google Inc.  
Copyright (c) 2002-2013 Mark Adler, all rights reserved version 2.3, 21 Jan 2013  
Copyright (c) 2012-2016, Yann Collet  
Copyright (c) 1990-2005, 2007-2009 Free Software Foundation, Inc.  
Copyright (c) 2016-present, Przemyslaw Skibinski, Facebook, Inc.  
Copyright (c) 2001-2002, 2004-2023 Free Software Foundation, Inc.  
Copyright 2009, Google Inc.  
Copyright (c) 2005-2006, 2008-2023 Free Software Foundation, Inc.  
Copyright (c) 2013, Guillaume Voirin All rights reserved.  
Copyright 2010 Google Inc. All Rights Reserved.  
Copyright (c) 1992, 1999, 2001, 2003, 2005, 2009-2023 Free Software Foundation, Inc.  
Copyright 2015 - 2016 Kennon Conrad  
Copyright (c) 2012-2023 Free Software Foundation, Inc.  
Copyright (c) 2016-2021, Yann Collet, Facebook, Inc.  
Copyright (c) 1995-2008 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2011-2016, Yann Collet.  
Copyright (c) 2018-2019 HiSilicon Limited.  
Copyright (c) 2004, 2006-2023 Free Software Foundation, Inc.  
Copyright (c) 2016-2021, Facebook, Inc.  
Copyright (c) 2014-2016, Yann Collet.  
Copyright (c) 1999-2010 Igor Pavlov 2010-11-18 7-Zip (A) 9.20  
Copyright (c) 1999, 2004-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright 2022 Huawei Technologies Co.,Ltd. All rights reserved.  
Copyright (c) Yann Collet 2014-2020  
Copyright 2015-2016 The OpenSSL Project Authors. All Rights Reserved.  
Copyright 2007 Google Inc.  
Copyright 1998-2004 Gilles Vollant - http:www.winimage.com/zLibDll; unzip 1.01  
Copyright (c) 2016-present, Przemyslaw Skibinski, Yann Collet, Facebook, Inc.  
Copyright 2018 Google Inc. All Rights Reserved.  
Copyright (c) 1990, 1998, 2000-2001, 2003-2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2004, 2005, 2010, 2011, 2012, 2013, 2016 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2022, Xiaomi Inc.  
Copyright (c) 1985-2014 Intel Corporation. All rights reserved.  
Copyright 2018-present Conor McCarthy  
Copyright 2008, Google Inc.  
Copyright (c) 2009-2016 Free Software Foundation, Inc.  
Copyright (c) 2004-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2018, Guillaume Voirin All rights reserved.  
Copyright (c) 2002-2013 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2014, lpsantil All rights reserved.  
Copyright (c) 2011-2016, Yann Collet All rights reserved.  
Copyright 2016 Eric Biggers  
Copyright (c) 1996 L. Peter Deutsch  
Copyright [2007] Neal Norwitz  
Copyright (c) Henrik Ravn 2004  
Copyright (c) 1995-1998, 2000-2002, 2004-2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1998 - 2010 Gilles Vollant, Even Rouault, Mathias Svensson  
Copyright 2022 Eric Biggers  
Copyright (c) 2002-2004, 2007-2023 Free Software Foundation, Inc.  
Copyright 2005 Google Inc. All Rights Reserved.  
Copyright (c) 2016-present, Facebook, Inc.  
Copyright (c) 2013-2016, Yann Collet  
Copyright (c) 1998 by Bob Dellaca.  
Copyright (c) 1985-2014 Intel Corporation. All rights reserved. ﻿  
Copyright (c) 2015-2016, Yann Collet.  
Copyright (c) 2017-present, Conor McCarthy All rights reserved.  
Copyright (c) 1996 L. Peter Deutsch and Jean-Loup Gailly  
Copyright (c) 1995-2017 Jean-loup Gailly For conditions of distribution and use, see  
Copyright (c) 2007-2008 Even Rouault  
Copyright (c) 2003, 2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2002-2003, 2005-2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1998, 2001, 2003-2006, 2009-2023 Free Software Foundation, Inc.  
Copyright 2017 Jun He <jun.he@linaro.org>  
Copyright (c) 2004-2023 Free Software Foundation, Inc.  
Copyright 2017 Google Inc. All Rights Reserved.  
Copyright (c) 1999, 2006, 2009-2023 Free Software Foundation, Inc.  
Copyright 2005, Google Inc.  
Copyright (c) 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2010-2013 Marcus Geelnard  
Copyright 2018 Google LLC. All rights reserved.  
Copyright (c) 1990, 2001, 2003-2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2011, John Engelhart  
Copyright 2018 Eric Biggers  
Copyright (c) 1999, 2009-2023 Free Software Foundation, Inc.  
Copyright 2009 Google Inc. All rights reserved.  
Copyright (c) Yann Collet, Meta Platforms, Inc. and affiliates.  
Copyright (c) 2014 - 2017 The GmSSL Project. All rights reserved.  
Copyright (c) 2019. Huawei Technologies Co.,Ltd.All rights reserved.  
Copyright (c) 2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2018-present lzutao <taolzu(at)gmail.com>  
Copyright (c) 1997, 2003-2004, 2006-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2003 by Cosmin Truta.  
Copyright (c) 2004, 2005 by Mark Adler Last modified 11 December 2005  
Copyright (c) 1990, 1998, 2001, 2003-2023 Free Software Foundation, Inc.  
Copyright (c) Yann Collet 2012-2020  
Copyright (c) 1996-2019 by Julian Seward.  
Copyright (c) 2003, 2008-2023 Free Software Foundation, Inc.  
Copyright 2023 Free Software Foundation, Inc.  
Copyright (c) 1995, 1997-1998, 2003-2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1997, 1999, 2001, 2003, 2005, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2016, Yann Collet.  
Copyright (c) 1995-2003 by Jean-loup Gailly.  
Copyright (c) 2004, 2005, 2010, 2011, 2012, 2013, 2016 Mark Adler  
Copyright (c) 2006-2011 Lasse Mikkel Reinhold lar@quicklz.com  
Copyright (c) 2014-2023 Free Software Foundation, Inc.  
Copyright (c) Yann Collet 2011-2020 GPL v2 License  
Copyright (c) 2017-2023 Free Software Foundation, Inc.  
Copyright (c) 1995-2017 Jean-loup Gailly detectdatatype() function provided freely by Cosmin Truta, 2006 For conditions of distribution and use, see  
Copyright (c) 1995-2016 Jean-loup Gailly, Mark Adler For conditions of distribution and use, see  
Copyright (c) 2014-2015, Yann Collet.  
Copyright (c) 1995-2006, 2010, 2011 Jean-loup Gailly.  
Copyright (c) 2007-2008, 2010-2023 Free Software Foundation, Inc.  
Copyright (c) 2009-2012 Richard Geldreich, Jr. <richgel99@gmail.com> File: lzham.h  
Copyright (c) 1990, 1998-2001, 2003-2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2016-present, Przemyslaw Skibinski All rights reserved.  
Copyright (c) 2005, 2007, 2009-2023 Free Software Foundation, Inc.  
Copyright 1998-2004 Gilles Vollant - http:www.winimage.com/zLibDll;  
Copyright 2010 Google Inc. All Rights Reserved.  
Copyright (c) 2019-2020, NVIDIA CORPORATION. All rights reserved.  
Copyright (c) 1998 Markus Franz Xaver Johannes Oberhumer  
Copyright 2016 Google Inc. All Rights Reserved.  
Copyright 2008 Google Inc. All Rights Reserved.  
Copyright (c) Yann Collet 2011-2020  
Copyright 2007 Neal Norwitz  
Copyright (c) Przemyslaw Skibinski, Yann Collet, Facebook, Inc.  
Copyright (c) 2005-2023 Free Software Foundation, Inc.  
Copyright (c) 2018-present lzutao <taolzu(at)gmail.com>  
Copyright (c) 1999 Markus Franz Xaver Johannes Oberhumer  
Copyright (c) 2018, Conor McCarthy All rights reserved.  
Copyright (c) 2010 Marcus Geelnard  
Copyright (c) 2006-2008 Alexander Chemeris  
Copyright (c) 2011-2023 Free Software Foundation, Inc.  
Copyright (c) 1995-1997, 2003, 2006, 2008-2023 Free Software Foundation, Inc.  
Copyright (c) 2011-2020, Yann Collet All rights reserved.  
Copyright (c) 2018-present Dima Krasner <dima@dimakrasner.com>  
Copyright (c) 2004 by henrik ravn)]  
Copyright (c) 2015-2016, Apple Inc. All rights reserved.  
Copyright 2010-2016 The OpenSSL Project Authors. All Rights Reserved.  
Copyright (c) 1990, 1997-2001, 2003-2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2003, 2006-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1995-2006, 2010, 2011, 2016 Jean-loup Gailly For conditions of distribution and use, see  
Copyright (c) 2007, 2010-2023 Free Software Foundation, Inc.  
Copyright (c) Huawei Technologies Co., Ltd. 2010-2024. All rights reserved.  
Copyright (c) 1995-2003, 2010, 2014, 2016 Jean-loup Gailly, Mark Adler For conditions of distribution and use, see  
Copyright (c) Yann Collet 2018-2020  
Copyright (c) 2003 Chris Anderson <christop@charm.net>  
Copyright (c) 1995-2017 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2013-2015 Willy Tarreau <w@1wt.eu>  
Copyright (c) 2006 Alexander Chemeris  
Copyright 2019 Google LLC. All Rights Reserved.  
Copyright (c) 2008-2023 Free Software Foundation, Inc.  
Copyright (c) 2012-2016 Free Software Foundation, Inc.  
Copyright (c) 2002, 2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2018 Conor McCarthy All rights reserved.  
Copyright (c) 2003-2010 Mark Adler  
Copyright (c) 2001, 2004-2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) Yann Collet 2014-present All rights reserved.  
Copyright (c) Yann Collet, Facebook, Inc.  
Copyright (c) 2004, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2000, 2002, 2004-2005, 2007, 2009-2023 Free Software Foundation, Inc.  
Copyright 2023 Huawei Technologies Co.,Ltd. All rights reserved.  
Copyright (c) 1991, 1993, 1996-1997, 1999-2000, 2003-2004, 2006, 2008-2023 Free Software Foundation, Inc.  
Copyright (c) 1993 Jean-loup Gailly., This is free software. You may redistribute copies of it under the terms of, There is NO WARRANTY, to the extent permitted by law., 0};  
Copyright (c) 2001 Markus Franz Xaver Johannes Oberhumer  
Copyright 1995-2017 Jean-loup Gailly and Mark Adler ; deflate 1.2.11  
Copyright (c) 1995-2003, 2010 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2016-2020, Yann Collet, Facebook, Inc.  
Copyright 2006, Google Inc.  
Copyright 1990-2005, 2007-2009 Free Software Foundation, Inc.  
Copyright (c) 2010-2023 Free Software Foundation, Inc.  
Copyright (c) Meta Platforms, Inc. and affiliates. All rights reserved.  
Copyright (c) Huawei Technologies Co., Ltd. 2010-2019. All rights reserved.  
Copyright 2012-2023 The OpenSSL Project Authors. All Rights Reserved.  
Copyright (c) 2016, Brian Marshall All rights reserved.  
Copyright (c) 2012-2013 by Zhang Li <zhangli10 at baidu.com>  
Copyright (c) 1995-2005, 2014, 2016 Jean-loup Gailly, Mark Adler For conditions of distribution and use, see  
Copyright (c) 2000-2016 Free Software Foundation, Inc.  
Copyright (c) 1996-2019 Julian R Seward. All rights reserved. documentation, are  
Copyright (c) 2013-2015, Yann Collet.  
Copyright (c) 2016, Conor Stokes All rights reserved.  
Copyright (c) 1995-2005, 2010 Mark Adler For conditions of distribution and use, see  
Copyright (c) 1989, 1991 Free Software Foundation, Inc.  
Copyright (c) Martin Liska, SUSE, Facebook, Inc.  
Copyright (c) 1991, 1993, 1996-1997, 1999-2000, 2003-2023 Free Software Foundation, Inc.  
Copyright (c) 2013-2016, Yann Collet.  
Copyright 2010, Google Inc.  
Copyright (c) 1995, 1997-1998, 2003, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2006-2023 Free Software Foundation, Inc.  
Copyright (c) 1987-2023 Free Software Foundation, Inc.  
Copyright 2022-2023 Free Software Foundation, Inc.  
Copyright 2020-2022 Linaro ltd.  
Copyright (c) 1999, 2002-2003, 2006-2007, 2011-2023 Free Software Foundation, Inc.  
Copyright 2014 Google Inc. All Rights Reserved.  
Copyright (c) 2011-present, Takayuki Matsuoka All rights reserved.  
Copyright 2008 Google Inc.  
Copyright (c) 1996-2004 Markus Franz Xaver Johannes Oberhumer All Rights Reserved.  
Copyright (c) 2009-2020 Antonio Diaz Diaz.  
Copyright (c) 2018 Huawei Corporation. All rights reserved.  
Copyright (c) 2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2003-2008 Yuta Mori All Rights Reserved.  
Copyright (c) 2003-2023 Free Software Foundation, Inc.  
Copyright (c) 2016-present, Facebook, Inc. All rights reserved.  
Copyright (c) 2020, NVIDIA CORPORATION. All rights reserved.  
Copyright (c) 2001-2003, 2005-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2022-present Tristan Partin <tristan(at)partin.io>  
Copyright 90,2005,2007-2009 Free Software Foundation, Inc.  
Copyright (c) 1997-1999, 2001-2002, 2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2003, 2005, 2008, 2010, 2012 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2002 Markus Franz Xaver Johannes Oberhumer  
Copyright (c) 1985-2014 Intel Corporation. All rights reserved.  
Copyright (c) 2007,2008 Vitaly Evseenko. All Rights Reserved.  
Copyright (c) 1998,1999,2000 by Jacques Nomssi Nzali.  
Copyright (c) Huawei Technologies Co., Ltd. 2021-2021. All rights reserved.  
Copyright 2021 Google Inc. All Rights Reserved.  
Copyright (c) 1997-1999, 2001, 2006-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2004-2005, 2009-2023 Free Software Foundation, Inc.  
Copyright 2015-2016 Free Software Foundation, Inc.  
Copyright (c) 2020-2023 Free Software Foundation, Inc.  
Copyright (c) 1998-1999, 2001-2002, 2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2007 Free Software Foundation, Inc. <https:fsf.org/>  
Copyright 2019, Google LLC.  
Copyright 2015 Google Inc. All rights reserved.  
Copyright 2011 Martin Gieseking <martin.gieseking@uos.de>.  
Copyright (c) 2000 Markus Franz Xaver Johannes Oberhumer  
Copyright (c) Facebook, Inc.  
Copyright (c) 2015, Yann Collet.  
Copyright (c) 2004, 2010 Mark Adler  
Copyright (c) 2004, 2008, 2012, 2016 Mark Adler, all rights reserved For conditions of distribution and use, see  
Copyright (c) 1995, 1998, 2001, 2003, 2005, 2009-2023 Free Software Foundation, Inc.  
Copyright 2019, Google Inc.  
Copyright (c) 2016-2020, Przemyslaw Skibinski, Yann Collet  
Copyright (c) 2004-2017 Mark Adler  
Copyright (c) 2005, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2001-2023 Free Software Foundation, Inc.  
Copyright 2005 and onwards Google Inc.  
Copyright (c) 1997-1999, 2002, 2006, 2009-2023 Free Software Foundation, Inc.  
Copyright 2020 Huawei Technologies Co.,Ltd.All rights reserved.  
Copyright (c) 1997-1998, 2006-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1991, 1996-1998, 2002-2004, 2006-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2001, 2006, 2008-2023 Free Software Foundation, Inc.  
Copyright 2018-2019 Huawei Technologies Co.,Ltd.All rights reserved.  
Copyright (c) 2023 Free Software Foundation, Inc.  
Copyright (c) 1994-2023 Free Software Foundation, Inc.  
Copyright years (such as 90, 1991, 1992-2007, 2008) in a reformatted FSF  
Copyright (c) 2003, 2012, 2013 Mark Adler version 1.3, 24 Aug 2013  
Copyright (c) 2002-2003, 2007-2023 Free Software Foundation, Inc.  
Copyright 2009 Google Inc. All rights reserved.  
Copyright (c) 2019. Huawei Technologies Co., Ltd. All rights reserved.  
Copyright (c) 2010-2016 Free Software Foundation, Inc.  
Copyright 2014-2016 Free Software Foundation, Inc.  
Copyright (c) 1995, 1999, 2001-2004, 2006-2023 Free Software Foundation, Inc.  
Copyright (c) 2003 Markus Franz Xaver Johannes Oberhumer  
Copyright (c) 2019 HiSilicon Limited.  
Copyright (c) 1995-1996, 2001-2023 Free Software Foundation, Inc.  
Copyright 2013 Google Inc. All Rights Reserved.  
Copyright (c) 2002, 2004-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1997-2006, 2008-2023 Free Software Foundation, Inc.  
Copyright (c) 2004, 2005 Mark Adler.  
Copyright (c) 1998-2005 Gilles Vollant  
Copyright (c) 2003, 2012 mark adler  
Copyright (c) 2016-present, Przemyslaw Skibinski, Yann Collet  
Copyright 1995-2017 Mark Adler ; inflate 1.2.11  
Copyright (c) 1991, 2004-2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) Huawei Technologies Co., Ltd. 2021-2024. All rights reserved.  
Copyright (c) 2002-2020 Joergen Ibsen  
Copyright (c) 2021-2021, Facebook, Inc.  
Copyright (c) 1995-2006, 2011, 2016 Jean-loup Gailly For conditions of distribution and use, see  
Copyright (c) 2018-present, Yann Collet, Facebook, Inc.  
Copyright (c) 1996 Markus Franz Xaver Johannes Oberhumer All Rights Reserved.  
Copyright (c) 1997-1999, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1997 Christian Michelsen Research AS Advanced Computing Fantoftvegen 38, 5036 BERGEN, Norway  
Copyright (c) 1995-2016 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2016-2023 Free Software Foundation, Inc.  
Copyright (c) 2019-present, Facebook, Inc.  
Copyright (c) 2003-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright 2013, Google Inc.  
Copyright (c) 2000-2010 Marc Alexander Lehmann <schmorp@schmorp.de>  
Copyright (c) 1999, 2002-2003, 2005, 2007, 2010-2023 Free Software Foundation, Inc.  
Copyright 2020 Eric Biggers  
Copyright (c) 1990-2000 Info-ZIP. All rights reserved.  
Copyright (c) 1995-2016 Jean-loup Gailly For conditions of distribution and use, see  
Copyright 2020-2021 Linaro ltd.  
Copyright (c) 2001, 2003, 2005, 2009-2023 Free Software Foundation, Inc.  
Copyright 2009 Google Inc. All Rights Reserved.  
Copyright 2000-2016 The OpenSSL Project Authors. All Rights Reserved.  
Copyright (c) 2016-2020 Joergen Ibsen  
Copyright 2007, Google Inc.  
Copyright (c) 2004, 2008, 2012 Mark Adler, all rights reserved version 2.2, 14 Aug 2012  
Copyright 2020 Google Inc. All Rights Reserved.  
Copyright (c) 2023 Free Software Foundation, Inc.  
Copyright 2001-2016 The OpenSSL Project Authors. All Rights Reserved.  
Copyright (c) 2003, 2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2004, 2005, 2012 Mark Adler, all rights reserved version 1.2, 14 Aug 2012  
Copyright (c) 2007-2023 Free Software Foundation, Inc.  
Copyright (c) 2005, 2012 Mark Adler For conditions of distribution and use, see  
Copyright 2016 Free Software Foundation, Inc.  
Copyright (c) 2004, 2010 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2002-2003, 2005-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1996-2019 Julian Seward <jseward@acm.org>  
Copyright (c) 1990-2000, 2003-2004, 2006-2023 Free Software Foundation, Inc.  
Copyright-2020, NVIDIA CORPORATION. All rights reserved.  
Copyright (c) Antonio Diaz Diaz.  
Copyright (c) 2019, Conor McCarthy All rights reserved.  
Copyright (c) 2005, 2010, Oracle and/or its affiliates. All rights reserved.  
Copyright (c) huawei technologies co., ltd. 2010-2024. all rights reserved.  
Copyright (c) Microsoft Corporation. All rights reserved.  
Copyright 2018, Google LLC.  
Copyright (c) 2016-2021, Przemyslaw Skibinski, Yann Collet, Facebook, Inc.  
Copyright (c) 1995, 2001-2004, 2006-2023 Free Software Foundation, Inc.  
Copyright (c) 2010-2018 Marcus Geelnard  
Copyright (c) 1999-2000, 2002-2003, 2006-2023 Free Software Foundation, Inc.  
Copyright 2020-2022 Huawei Technologies Co.,Ltd. All rights reserved.  
Copyright (c) 1992-1993 Jean-loup Gailly  
Copyright (c) 2018-2020, NVIDIA CORPORATION. All rights reserved.  
Copyright (c) 1990-2000, 2002-2006, 2008-2023 Free Software Foundation, Inc.  
Copyright (c) 1998-2010 - by Gilles Vollant - version 1.1 64 bits from Mathias Svensson MiniZip  
Copyright 2018, Google Inc.  
Copyright 2020-2021 Huawei Technologies Co.,Ltd. All rights reserved.  
Copyright (c) 2013, Guillaume Voirin  
Copyright (c) 1992, 1993 Jean-loup Gailly  
Copyright (c) 2022 HiSilicon Limited.  
Copyright (c) 2007-2014 Intel Corporation. All rights reserved.  
Copyright (c) 2025. Huawei Technologies Co.,Ltd.All rights reserved.  
Copyright (c) 1995-2006, 2011 Jean-loup Gailly  
Copyright (c) 1996-2017 Markus Franz Xaver Johannes Oberhumer All Rights Reserved.  
Copyright (c) 1999, 2002-2003, 2005-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2012-2016, Yann Collet.  
Copyright (c) 2003, 2012 Mark Adler, all rights reserved version 1.2, 11 Oct 2012  
Copyright (c) 2004-2017 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2005-2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1999, 2002-2023 Free Software Foundation, Inc.  
Copyright (c) 2004 Markus Franz Xaver Johannes Oberhumer  
Copyright (c) 2002-2018 Joergen Ibsen  
Copyright (c) 1990-1998, 2000-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1988, 1990, 1999, 2003-2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2004, 2007-2023 Free Software Foundation, Inc.  
Copyright (c) 2009-2010 Mathias Svensson ( http:result42.com )  
Copyright (c) 1995-2017 Jean-Loup Gailly, Mark Adler. OS/400 version by P. Monnerat.) >> os400.c makemodule OS400 os400.c LINK No need to rebuild service program yet.  
Copyright (c) 2000-2007 Marc Alexander Lehmann <schmorp@schmorp.de>  
Copyright (c) Meta Platforms, Inc. and affiliates.  
Copyright (c) 2016-present, Yann Collet, Facebook, Inc.  
Copyright (c) 2018-present lzutao <taolzu(at)gmail.com>  
Copyright (c) 1995-2017 Jean-loup Gailly and Mark Adler  
copyright line {line} does not contain (c) !)  
Copyright (c) 2015, Guillaume Voirin All rights reserved.  
Copyright (c) 1992, 1995, 1997-1998, 2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1995-2006, 2010, 2011, 2012, 2016 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2003 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2011-2020, Yann Collet.  
Copyright (c) 1996-1997, 2003, 2005, 2007, 2009-2023 Free Software Foundation, Inc.  
Copyright 2020-2023 Free Software Foundation, Inc.  
Copyright (c) 1997-1999, 2006-2007, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) Henrik Ravn 2004  
Copyright (c) 1989, 1991 Free Software Foundation, Inc.  
Copyright (c) 1998-2010 Gilles Vollant (minizip) ( http:www.winimage.com/zLibDll/minizip.html )  
Copyright (c) 2017-present, Facebook, Inc.  
Copyright (c) 2017-2020, NVIDIA CORPORATION. All rights reserved.  
Copyright 2014-2016 Kennon Conrad  
Copyright (c) 1995-2011, 2016 Mark Adler For conditions of distribution and use, see  
Copyright (c) 1996-2014 Intel Corporation. All rights reserved.  
Copyright 2021 The OpenSSL Project Authors. All Rights Reserved.  
Copyright 2008 Google Inc. All Rights Reserved.  
Copyright (c) 2005-2020 Ariya Hidayat <ariya.hidayat@gmail.com>  
Copyright 1995-2017 Mark Adler ; inflate9 1.2.11  
Copyright (c) 1995-2003 Jean-loup Gailly and Mark Adler.  
Copyright 2019 Huawei Technologies Co.,Ltd.All rights reserved.  
Copyright 2015, Google Inc.  
Copyright 2016-2023 Free Software Foundation, Inc.  
Copyright [2007] Google Inc.  
Copyright (c) 1995-2017 Jean-loup Gailly and Mark Adler For conditions of distribution and use, see  
Copyright (c) 1997 Markus Franz Xaver Johannes Oberhumer  
Copyright (c) 1999, 2002, 2006, 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 2013-2016 Free Software Foundation, Inc.  
Copyright (c) 2009-2012 Richard Geldreich, Jr. <richgel99@gmail.com>  
Copyright 2020-2021, NVIDIA CORPORATION. All rights reserved.  
Copyright 2011-2016 The OpenSSL Project Authors. All Rights Reserved.  
Copyright 2012 Google Inc. All Rights Reserved.  
Copyright (c) 2004-2006, 2008-2023 Free Software Foundation, Inc.

**License:** 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  
  
0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".  
Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.  
  
1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.  
You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.  
  
2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:  
a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.  
b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.  
c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)  
These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.  
  
Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.  
  
In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.  
  
3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:  
a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,  
b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,  
c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)  
The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.  
  
If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.  
  
4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.  
5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.  
6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.  
7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.  
If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.  
  
It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.  
  
This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.  
  
8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.  
9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.  
Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.  
  
10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.  
NO WARRANTY  
  
11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.  
12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.  
END OF TERMS AND CONDITIONS  
  
How to Apply These Terms to Your New Programs  
  
If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.  
  
To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.  
  
<one line to give the program's name and 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.

**Written Offer**

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

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

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