



Free/Open Source Declaration

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2 Purpose of this document

Cerence Drive™ Framework and Companion SDK software relies on particular open source software packages. The copyright and licensing information for these packages are included in this document. The license terms associated with open source software contributions require that we provide license and copyright information to customers of Nuance Communications.

The information is provided in separate chapters per component as the usage of components in CDFW is optional and so not necessarily all listed OSS will be part of a Cerence Drive™ Framework or Cerence SDK based project.

3 Open Source Software used in Cerence Drive Framework

The following software (or certain identified files distributed with the software) may be included in this product. Unless otherwise specified, the software identified in this file is licensed under the licenses described below. The disclaimers and copyright notices provided are based on information made available to Nuance by the third-party licensors listed. The Open Source Software that is included in Cerence Drive™ Framework and Cerence SDK is distributed to you by Nuance Communications and subject to the applicable open source license terms. The open source software is licensed under the applicable project terms and license conditions. This also affects limitations on representations, warranties, conditions, remedies and liabilities.

3.1 List of used Open Source Software (OSS) libraries used in CDFW components

3.1.1 Cerence Drive Framework (core framework)

CDFW Version	OSS	OSS Ver.	License	Originator / Copyright Holder	Link to Source	Link to License	Linkage
all	cJSON	1.0 ^[1]	MIT License	Copyright (c) 2009 Dave Gamble	https://github.com/DaveGamble/cJSON	https://github.com/DaveGamble/cJSON/blob/master/LICENSE	static
all	libogg	1.3.0	3-clause BSD license	Copyright (c) 2002, Xiph.org Foundation	https://ftp.osuosl.org/pub/xiph/releases/ogg	https://github.com/gcp/libogg/blob/master/COPYING	static
all	Opus	1.3	3-clause BSD license	Copyright © 2011-2014 Jean-Marc Valin/Xiph.org Foundation	http://opus-codec.org/downloads/	http://www.opus-codec.org/license/	static
all	minimp3	1bfe88f	Creative Commons Zero v1.0 Universal	N/A	https://github.com/lieff/minimp3	https://github.com/lieff/minimp3/blob/master/LICENSE	Static
5.0	RSA MD5	1991-2	Public Domain	Copyright (C) 1991-2, RSA Data Security, Inc. Created 1991. All rights reserved.	http://www.faqs.org/rfcs/rfc1321.html	http://www.faqs.org/rfcs/rfc1321.html	static

3.1.2 PAL

PAL Version	OSS	OSS Ver.	License	Originator / Copyright Holder	Link to Source	Link to License	Linkage
all	dmalloc	2.8.6	Creative-Commons 1.0	Doug Lea	http://gee.cs.oswego.edu/pub/misc/malloc-2.8.6.c	http://creativecommons.org/publicdomain/zero/1.0	static

3.1.3 CloudServices

Version	OSS	OSS Ver.	License	Originator / Copyright Holder	Link to Source	Link to License	Linkage
all	CURL	7.60.0	MIT/X derivate license, see license link	Copyright (c) 1996 - 2016, Daniel Stenberg, daniel@haxx.se, and many contributors, see the THANKS file.	https://github.com/curl/curl	https://curl.haxx.se/docs/copyright.html	static
all	openssl	1.0.2r	OpenSSL License SSLeay License	Copyright (c) 1998-2018 The OpenSSL Project Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)	https://www.openssl.org/source/old/1.0.2/	https://www.openssl.org/source/license.html	static
all	uWebSockets	0.14.5	zlib license	Copyright (c) 2016 Alex Hultman and contributors	https://github.com/uNetworking/uWebSockets	https://github.com/uNetworking/uWebSockets/blob/master/LICENSE	static

3.1.4 TTS (Vocalizer Embedded)

VE Version	OSS	OSS Ver.	License	Originator / Copyright Holder	Link to Source	Link to License	Linkage
19.12.0	Alladin MD5	1.6	zlib License	Copyright (C) 1999, 2000, 2002 Aladdin Enterprises	https://svn.python.org/projects/python/trunk/Modules/md5.c	http://vinci.sf.mpg.de/doc/license-md5.html	static
19.12.0	EXPAT	2.2.6	MIT License	Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd.	http://www.libexpat.org/	https://github.com/libexpat/libexpat/blob/master/expat/COPYING	static
19.12.0	fft4g	12/2006	Public Domain	Copyright Takuya OOURA, 1996-2001	http://www.kurims.kyoto-u.ac.jp/~ooura/fft.html	http://www.kurims.kyoto-u.ac.jp/~ooura/fft.html	static
19.12.0	hts_engine API	1.06	Modified BSD License	2001-2008 Tokyo Institute of Technology Interdisciplinary Graduate School of Science and Engineering	http://hts-engine.sourceforge.net/	http://hts-engine.sourceforge.net/	static
19.12.0	Intel/DVI ADPCM coder/decoder	1.2	MIT	Copyright 1992 by Stichting Mathemat. Centrum, Amsterdam, The Netherlands	http://www.engr.uconn.edu/~barry/CSE261/lab1/adpcm.cpp	http://www.engr.uconn.edu/~barry/CSE261/lab1/adpcm.cpp	static
19.12.0	Kazlib	1.20	Modified BSD License	Copyright (C) 1999-2012 Kaz Kylheku Vancouver, Canada	http://git.savannah.gnu.org/cgit/kazlib.git/tree/	http://savannah.nongnu.org/projects/kazlib/	static
19.12.0	libfixmath	r37	MIT License	Copyright (c) the authors of libfixmath as seen on https://code.google.com/p/libfixmath	https://code.google.com/archive/p/libfixmath/downloads	https://code.google.com/archive/p/libfixmath/	static
19.12.0	LUA	5.3.1	MIT License	Copyright © 1994–2015 Lua.org, PUC-Rio	http://www.lua.org/download.html	http://www.lua.org/license.html	static
19.12.0	OpenBLAS	0.2.20	3-clause BSD license	Copyright (c) 2011-2015, The OpenBLAS Project	https://github.com/xianyi/OpenBLAS/releases	https://github.com/xianyi/OpenBLAS/wiki	static

19.12.0	MeCab	0.996	BSD	Copyright (c) 2001-2008, Taku Kudo Copyright (c) 2004-2008, Nippon Telegraph and Telephone Corporation	https://drive.google.com/uc?export=download&id=0B4y35FIV1wh7cENtOXlicTFaRUE	https://drive.google.com/uc?export=download&id=0B4y35FIV1wh7cENtOXlicTFaRUE	static
19.12.0	Opus	1.1-beta	3-clause BSD license	Copyright © 2011-2014 Jean-Marc Valin/Xiph.org Foundation	http://www.opus-codec.org/downloads/	http://www.opus-codec.org/license/	static
19.12.0	PCRE	5.0	PCRE Licence	Philip Hazel Copyright (c) 1997-2016 University of Cambridge	https://sourceforge.net/projects/pcre/files/pcre/5.0	http://www.pcre.org/licence.txt	static
19.12.0	RSA MD5	1991-2	Public Domain	Copyright (C) 1991-2, RSA Data Security, Inc. Created 1991. All rights reserved.	http://www.fags.org/rfcs/rfc1321.html	http://www.fags.org/rfcs/rfc1321.html	static
19.12.0	strtod 8.4.12	8.4.12	Tcl/Tk License	Copyright (c) 1988-1993 The Regents of the University of California. 1994 Sun Microsystems, Inc	https://sourcecodebrowser.com/tcl8.4/8.4.12/strtod_8c_source.html	http://www.tcl.tk/software/tcltk/license.html	static
19.12.0	wapiti	1.4.0	BSD	Copyright (c) 2009-2013 CNRS All rights reserved.	https://wapiti.limsi.fr/#download	https://wapiti.limsi.fr/#licence	static
19.12.0	zlib	1.2.6	zlib License	Copyright (C) 1995-2005 Jean-loup Gailly and Mark Adler	https://www.zlib.net/fossils/zlib-1.2.6.tar.gz	https://www.zlib.net/zlib_license.html	static
19.12.0	SPTK	3.5	BSD	Copyright (c) 1984-2007 Tokyo Institute of Technology Interdisciplinary Graduate School of Science and Engineering 1996-2011 Nagoya Institute of Technology Department of Computer Science	https://sourceforge.net/projects/sp-tk/	https://sourceforge.net/projects/sp-tk/	static



3.1.5 E-mail Pre-Processor (EPP) (not available in Cerence SDK)

EPP Version	OSS	OSS Ver.	License	Originator / Copyright Holder	Link to Source	Link to License	Linkage
2.2.1	EXPAT	2.2.5	MIT License	Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd / C. Cooper 2001-2006 Expat- maintainers	http://www.libexpat.org/	https://github.com/libexpat/libexpat/blob/master/expat/COPYING	static

3.1.6 ASR (VoCon5)

VoCon Version	OSS	OSS Ver.	License	Originator / Copyright Holder	Link to Source	Link to License	Linkage
5.0	PCRE	5.0	BSD	Copyright (c) 1997-2004 University of Cambridge	https://sourceforge.net/projects/pcre/files/pcre/5.0/	https://www.pcre.org/licence.txt	static
5.0	Lua	5.3.1	MIT License	Copyright © 1994–2015 Lua.org, PUC-Rio	http://www.lua.org/download.html	http://www.lua.org/license.html	static
5.0	RSA MD5	1991-2	Public Domain	Copyright (C) 1991-2, RSA Data Security, Inc. Created 1991. All rights reserved.	http://www.faqs.org/rfcs/rfc1321.html	http://www.faqs.org/rfcs/rfc1321.html	static
5.0	Kazlib	1.20	Modified BSD License	Copyright (C) 1999-2012 Kaz Kylheku Vancouver, Canada	http://git.savannah.gnu.org/cgit/kazlib.git/tree/	http://savannah.nongnu.org/projects/kazlib/	static
5.0	libfixmath	r37	MIT	Copyright (c) the authors of libfixmath as seen on https://code.google.com/p/libfixmath/	https://github.com/sunsided/libfixmath	https://github.com/sunsided/libfixmath/blob/master/LICENSE	static
5.0	wapiti	1.4.0	BSD	Copyright (c) 2009-2013 CNRS	https://github.com/Jekub/Wapiti	https://github.com/Jekub/Wapiti/blob/master/COPYING	static

3.1.6.1 VDERPP (optional) (not available in Cerence SDK)

This section applies only for projects using project specific VDERPP plugin. The rppdata interface (usually provided by the map vendor to access the NDS database) might include additional open source.

VoCon Version	OSS	OSS Ver.	License	Originator / Copyright Holder	Link to Source	Link to License	Linkage
all	cJSON	1.0.2	MIT License	Copyright (c) 2009 Dave Gamble	https://github.com/DaveGamble/cJSON	https://github.com/DaveGamble/cJSON/blob/master/LICENSE	static
all	doublemetaphone	0.07	Artistic License	Copyright 2000, Maurice Aubrey	https://github.com/gitpan/Text-DoubleMetaphone	https://github.com/gitpan/Text-DoubleMetaphone/blob/master/README	static
all	hash_32_fnv1a	n/a	Public Domain	Sven Bergström	https://gist.github.com/underscorediscovery/81308642d0325fd386237cfa3b44785c	https://gist.github.com/underscorediscovery/81308642d0325fd386237cfa3b44785c	static
all	uthash.h	2.1.0	Revised BSD	Copyright (c) 2003-2018, Troy D. Hanson	http://troydhanson.github.com/uthash/	http://troydhanson.github.io/uthash/license.html	static
all	zlib	1.2.11	zlib-Lizenz	Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler	https://zlib.net	https://zlib.net/zlib_license.html	static
all	dirent.c	02/2003	Public Domain	Copyright Kevlin Henney, 1997, 2003, 2012. All rights reserved	https://dev.w3.org/hypermess/hypermail/lcc/dirent.c	https://dev.w3.org/hypermess/hypermail/lcc/dirent.c	static

3.1.7 Voice Biometrics (NVSL) (not available in Cerence SDK)

NVSL Version	OSS	OSS Ver.	License	Originator / Copyright Holder	Link to Source	Link to License	Linkage
5.3.0	zlib	1.1.3	zlib-Lizenz	zlib software copyright © 1995-2013 Jean-loup Gailly and Mark Adler.	https://sourceforge.net/projects/gnuwin32/files/zlib/1.1.3/zlib-1.1.3-src.zip/download	http://www.zlib.net/zlib_license.html	static
5.3.0	Torch	3.1	BSD	Copyright (c) 2003 Ronan Collobert (IDIAP, Trebolloc & Co) Samy Bengio (IDIAP) Johnny Mariéthoz (IDIAP)	http://torch.ch/torch3/downloads.html	http://torch.ch/torch3/license.html	static
5.3.0	Template Numerical Toolkit (TNT)	1.2	Public Domain	Roldan Pozo	http://math.nist.gov/tnt/download.html	http://math.nist.gov/tnt/download.html	static



3.1.8 NCE service (not available in Cerence SDK)

Version	OSS	OSS Ver.	License	Originator / Copyright Holder	Link to Source	Link to License	Linkage
all	cJSON	1.0.2	MIT License	Copyright (c) 2009 Dave Gamble	https://github.com/DaveGamble/cJSON	https://github.com/DaveGamble/cJSON/blob/master/LICENSE	static
all	duktape	2.1.0	MIT License	Copyright (c) 2013-2017 by Duktape authors	https://duktape.org/duktape-2.1.0.tar.xz	http://opensource.org/licenses/MIT	static
all	PCRE	8.39	PCRE Licence	Philip Hazel Copyright (c) 1997-2016 University of Cambridge	https://sourceforge.net/projects/pcre/files/pcre/5.0	http://www.pcre.org/licence.txt	static

3.1.8.1 NCE DDSAL (not available in Cerence SDK)

Version	OSS	OSS Ver.	License	Originator / Copyright Holder	Link to Source	Link to License	Linkage
all	Typescript	3.0.1	Apache License 2.0	?	https://github.com/Microsoft/TypeScript/tree/master/src	https://github.com/microsoft/TypeScript/blob/master/LICENSE.txt	Delivered as source (.ts files)



3.1.8.2 NCE core (not available in Cerence SDK)

Version	OSS	OSS Ver.	License	Originator / Copyright Holder	Link to Source	Link to License	Linkage
All	duktape	2.2	MIT License	Copyright (c) 2013-2017 by Duktape authors	https://duktape.org/duktape-2.2.0.tar.xz	http://opensource.org/licenses/MIT	static
all	PCRE2	10.21	PCRE Licence	Philip Hazel Copyright (c) 1997-2016 University of Cambridge	https://sourceforge.net/projects/pcre/files/pcre/5.0	http://www.pcre.org/licence.txt	static
all	Json-c	0.13	MIT License	Copyright (c) 2009-2012 Eric Haszlakiewicz	https://github.com/json-c/json-c.git	https://github.com/json-c/json-c/blob/master/COPYING	static
all	expat	2.2.5	MIT License	Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd.	http://www.libexpat.org/	https://github.com/libexpat/libexpat/blob/master/expat/COPYING	static
all	Curl	7.60.0	MIT/X derivate license, see license link	Copyright (c) 1996 - 2016, Daniel Stenberg, daniel@haxx.se, and many contributors, see the THANKS file.	https://github.com/curl/curl	https://curl.haxx.se/docs/copyright.html	static

3.1.8.3 MrecUtils (not available in Cerence SDK)

Version	OSS	OSS Ver.	License	Originator / Copyright Holder	Link to Source	Link to License	Linkage
all	timsort.h	n/a	MIT License	Copyright (c) 2014 Christopher Swenson and - Andrey Astrelin - Antony Dovgal - [drfie](https://github.com/dr fie) - Google Inc. - Haneef Mubarak - Vojtech Fried	https://github.com/swenson/sort/blob/master/sort_common.h	\\bn-netapp01\res\mrec\release\mrecutil\current\license.txt	static
all	PAPI	5.5.1	BSD License	Copyright (c) 2017 The University of Tennessee.	http://icl.cs.utk.edu/papi	\\bn-netapp01\res\mrec\release\mrecutil\current\license.txt	?
all	libpfm4		MIT License	Copyright (c) 2002-2006 Hewlett-Packard Development Company, L.P.		\\bn-netapp01\res\mrec\release\mrecutil\current\license.txt	?
all	SRGS		Copyright © 2004 W3C® (MIT, ERCIM, Keio)	Copyright 1998-2003 W3C (MIT, ERCIM, Keio)	https://www.w3.org/TR/speech-grammar/	\\bn-netapp01\res\mrec\release\mrecutil\current\license.txt	?
all	Xerces-C++		Apache Software License, Version 2.0	Copyright © 1999-2017 The Apache Software Foundation	https://xerces.apache.org/xerces-c/	http://www.apache.org/licenses/LICENSE-2.0.html	?
all	zlib	1.2.11	Zlib	(C) 1995-2017 Jean-loup Gailly and Mark Adler	https://zlib.net	https://zlib.net/zlib_license.html	?
all	Zstandard		BSD License	Copyright (c) 2016-present, Facebook, Inc. All rights reserved.	https://github.com/facebook/zstd	https://github.com/facebook/zstd/blob/dev/LICENSE	?

4 Appendix

A.1 Revision History

Rev.	Section	Modification	Date	Name
1.0	All	Initial Revision	25.04.2016	B. Vater / G. Hanrieder / G. Ruess
1.1	3.1.4	Add c_ares lib	09.08.2016	B. Vater
1.2	3.1.4	Update Version Information for curl and openssl	08.11.2016	B. Vater
1.3	3.1.3, 3.1.6	Update Version Information for curl in VE 3.0 and Vocon 4.11.F6, Added chapter 3.1.6 for EPP	09.01.2017	B. Vater
1.4	3.1.5, 3.1.6	Updated Version Information for NVSL and EPP	20.07.2017	B. Vater
1.5	3.1.4	Updated CURL Version for Vocon to 7.54.1	16.10.2017	B. Vater
1.6	All	Updated links that where no longer functional	24.10.2017	B. Vater
1.7	3.1.3, 3.1.7	Update to VE3.2, added chapter CloudServices	09.01.2018	B. Vater
1.8	All	Linkage information added, changed format to landscape, repartitioning of DDFW components	30.01.2018	B. Vater
1.9	3.1.1.2	Add uWebSockets to CloudServices	20.02.2018	Bei Di Chen
1.10	All	Fixed some deprecated links / version information	15.03.2018	B. Vater
1.11	3.2	Add chapter for OSS used in DDFW tools	25.04.2018	B. Vater
1.12	3.1.3	Change VoCon MD5 license to zlib / removed tools section 3.2	15.05.2018	B. Vater
2.0	3.1.2	Update of expat in TTS 3.2 to version 2.2.5; removal of bzip2 in NVSL, as its only used in in versions > 4; changed license for OpenSSL to OpenSSL License; update curl to version 7.60.0; updated openssl to 1.0.2o	30.05.2018	B. Vater
2.1	3.1.2.1, 3.1.1, 3.1.2	Updated EXPAT in EPP to 2.2.5. Fixed link to new libogg license location. Updated link to PCRE 5 sources	19.06.2018	B. Vater
2.2	3.1.3	Add new OSS used starting with Vocon 4.13F1	03.07.2018	B. Vater
2.3	3.1.2	Updated VE to version 3.3	07.08.2018	B. Vater
2.4	3.1.1.2	Update of C-ARES to 1.14.0	20.09.2018	B. Vater
2.5	3.1.1	Added minimp3, changed version for Speex to 1.2beta3	10.10.2018	B. Vater

Rev.	Section	Modification	Date	Name
2.6	3.1.1, 3.1.3	Update of Opus in framework component to latest version 1.3. Removal of zlib from ASR (Vocon) and TTS (VE)	26.11.2018	B. Vater
2.7	3.1.1.2	Footnote added for C-ARES	21.11.2018	Cl. Mueller
2.8	All	Updated VE to version 3.4, added Vocon5	29.01.2019	B. Vater
2.9	3.1.9	Added NCE FOSS, introduced Companion SDK	07.03.2019	B. Vater
3.0	3.1.1, 3.1.2, 3.1.6.1	Removal of Speex codec and c-ares in Cloudservices, Add chapter for VDERPP extension	21.05.2019	B. Vater
3.1	3.1	Fixed link to source of dlmalloc, adapt Opus License to BSD 3 clause. Update version of openssl to 1.0.2r, removed c-ares related note.	08.07.2019	B. Vater
4.0	All	Cerence migration	15.10.2019	B. Vater
4.1	3.1.4	Update to VE 19.12.0, removal of Vocon 4.x chapter	09.01.2020	B. Vater
4.1.1	3.1.6.1	Add missing info that VDERPP is not available in Cerence SDK	14.02.2020	G. Hanrieder

A.2 Terms and Abbreviations

Term / Abbreviations	Description
ASR	Automatic Speech Recognition
CDFW	Cerence Drive Framework
DDSAL	Dialog Development Service Abstraction Layer
EPP	Email Pre-Processor
F/OSS	Free-/Open-Source Software
GDC	Generic Dialog Compiler
NCE	Nuance Conversation Engine
NVSL	Nuance Voice Security Library
OSS	Open-Source Software
PAL	Platform Abstraction Layer
RKS	Reasoning and Knowledge Service
SSE	Speech Signal Enhancement
TTS	Text to Speech
UML	User Model



A.3 References

Label	Document
[1]	Local patch applied to solve reported vulnerability for cJSON. See also https://nvd.nist.gov/vuln/detail/CVE-2016-4303