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Project: **epay/epayapi**

Branch: **mainline** (4613eb53f38fe1dc1712efdf96eda86c094b1255)

Created on **2025-12-10 20:08 UTC**

Bill of components

Libraries (java)

 epayapi-common -- (compile)
mitigated - Libreria di prodotto
(registry)

 epayservices-ejb-api 4.11.0 (compile)
mitigated - Libreria di prodotto
(registry)

 antlr 2.7.7 (compile)
BSD
(registry)

 aopalliance:aopalliance 1.0 (compile)
PUBDOM
(registry)

 asm:asm 3.3.1 (compile)
BSD
BSD-3-Clause
(registry)

 axis 1.4 (compile)
Apache-2.0
(registry)

 axis:axis-jaxrpc 1.4 (compile)
Apache-2.0
(registry)

 axis:axis-saaj 1.2.1 (compile)
Apache-2.0
(registry)

 backport-util-concurrent:backport-util-concurrent 3.1 (compile)
PUBDOM
(registry)

 cglib:cglib 2.2.2 (compile)
Apache-2.0
(registry)

 com.fasterxml.jackson.core:jackson-annotations 2.9.9 (compile)
Apache-2.0
(registry)

 com.fasterxml.jackson.core:jackson-core 2.9.9 (compile)

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 com.fasterxml.jackson.core:jackson-databind 2.9.9 (compile)

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 com.github.librepdf:openpdf 1.3.20 (compile)

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 com.h2database:h2 1.4.197 (compile)

MPL2-or-EPL1-H2

Zed

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 commons-beanutils:commons-beanutils 1.9.1 (compile)

Apache-2.0

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 commons-codec:commons-codec 1.11 (compile)

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 commons-collections:commons-collections 3.2.2 (compile)

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 commons-dbcp:commons-dbcp 1.4 (compile)

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 commons-digester:commons-digester 2.1 (compile)

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 commons-discovery:commons-discovery 0.2 (compile)

Apache-2.0

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 commons-httpclient:commons-httpclient 2.0.2 (compile)
Apache-2.0
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 commons-io:commons-io 2.5 (compile)
Apache-2.0
(registry)

 commons-logging:commons-logging 1.1.1 (compile)
Apache-2.0
(registry)

 commons-pool:commons-pool 1.5.4 (compile)
Apache-2.0
(registry)

 csi-apachesoap 1.4.6 (compile)
Apache-2.0
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 csi-core 1.4.6 (compile)
Apache-2.0
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 csi-ejb 1.4.6 (compile)
Apache-2.0
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 csi-rmi 1.4.6 (compile)
Apache-2.0
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 csi-stadapter 1.4.6 (compile)
Apache-2.0
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 ejb 2.1 (compile)
CDDL
(registry)

 hibernate-core 4.1.3 (compile)
LGPL-2.1
(registry)

 io.swagger:csi-java-swagger-codegen 1.0.0.001 (compile)

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 io.swagger:swagger-codegen-cli 2.4.0-SNAPSHOT (compile)

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 jaas 1.0 (compile)

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 javax.mail:mail -- (compile)

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 javax.validation:validation-api 1.0.0.GA-redhat-3 (compile)

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 javax.ws.rs:jsr311-api 1.1.1 (compile)

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 javax.xml.bind:activation 1.0.2 (compile)

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 jaxp 1.1 (compile)

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 jms 1.0.2 (compile)

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 jndi 1.2.1 (compile)

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 joda-time:joda-time 1.6 (compile)

Apache-1.0

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 junit:junit 4.12 (compile)

EPL-1.0

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 net.sf.ehcache:ehcache 1.5.0 (compile)

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 net.sf.jasperreports.engine 6.2.1 (compile)

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 net.sf.jasperreports:jasperreports-fonts -- (compile)

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 net.sf.jasperreports:jasperreports-functions 6.2.1 (compile)

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 net.sf.jsr107cache:jsr107cache 1.0 (compile)

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 oracle_thin 1.0.0 (compile)

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 org.apache.commons:commons-lang3 3.2.1 (compile)

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 org.apache.ivy:ivy 2.0.0 (compile)

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 org.apache.logging.log4j:log4j-api 2.17.0 (compile)

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 org.apache.logging.log4j:log4j-core 2.17.0 (compile)

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 org.apache.poi:poi 3.17 (compile)

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 org.apache.poi:poi-ooxml 3.17 (compile)

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 org.apache.poi:poi-ooxml-schemas 3.17 (compile)

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 org.apache.poi:poi-scratchpad 3.17 (compile)

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 org.apache.xmlbeans:xmlbeans 2.6.0 (compile)

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 org.aspectj:aspectjweaver 1.7.2 (compile)

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 org.codehaus.jettison:jettison 1.3.1 (compile)

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 org.hibernate.common:hibernate-commons-annotations 4.0.1.Final-redhat-1 (compile)

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 org.hibernate.jpa.persistence:hibernate-jpa-2.0-api 1.0.1.Final-redhat-1 (compile)

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 org.hibernate:hibernate-entitymanager -- (compile)

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 org.hibernate:hibernate-validator 4.2.0.Final-redhat-1 (compile)
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 org.infinispan:infinispan-core 5.2.1.Final (compile)
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 org.javassist:javassist 3.18.1-GA (compile)
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 org.jboss.logging:jboss-logging 3.1.0.GA (compile)
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 org.jboss.resteasy:resteasy-jaxrs 2.3.10.Final-redhat-1 (compile)
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 org.jboss.resteasy:resteasy-multipart-provider 2.3.10.Final-redhat-1 (compile)
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 org.jboss.spec.javax.transaction:jboss-transaction-api_1.1_spec 1.0.1.Final (compile)
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 org.mapstruct:mapstruct 1.1.0.Final (compile)
[Apache-2.0](#)
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 org.mapstruct:mapstruct-jdk8 1.1.0.Final (compile)
[Apache-2.0](#)
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 org.mapstruct:mapstruct-processor 1.1.0.Final (compile)
[Apache-2.0](#)
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 org.mockito:mockito-all 1.5 (compile)

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 org.mockito:mockito-all 1.9.0 (compile)

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 org.springframework.data:spring-data-commons-core 1.4.0.RELEASE (compile)

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 org.springframework.data:spring-data-jpa 1.2.0.RELEASE (compile)

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 org.springframework:spring-aop 3.1.1.RELEASE (compile)

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 org.springframework:spring-asm 3.1.1.RELEASE (compile)

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 org.springframework:spring-beans 3.1.1.RELEASE (compile)

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 org.springframework:spring-context 3.1.1.RELEASE (compile)

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 org.springframework:spring-core 3.1.1.RELEASE (compile)

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 org.springframework:spring-expression 3.1.1.RELEASE (compile)

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 org.springframework:spring-jdbc 3.1.1.RELEASE (compile)

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 org.springframework:spring-orm 3.1.1.RELEASE (compile)

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 org.springframework:spring-test 3.1.1.RELEASE (compile)

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 org.springframework:spring-tx 3.1.1.RELEASE (compile)

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 org.springframework:spring-web 3.1.1.RELEASE (compile)

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 org.zenframework.z8.dependencies.commons:dom4j-1.6.1 2.0 (compile)

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 org.zenframework.z8.dependencies.servlet:servlet-api-2.5 2.0 (compile)

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 postgresql jdbc driver 9.4 (compile)

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PostgreSQL

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 servlet 2.4 (compile)

CDDL-1.1

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 soap:soap 2.3.1 (compile)

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 titillium-super -- (compile)

OFL-1.0

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 titillium-web -- (compile)

OFL-1.0

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 util-perf 1.0.0 (compile)

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 weblogic server 9.2 mp2 mon jun 25 01:32:01 edt 2007 952826 9.2.2.0 (compile)

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 wsdl4j:wsdl4j 1.5.1 (compile)

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 xerces:xmlParserAPIs 2.6.1 (compile)

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 xercesImpl 2.6.2 (compile)

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 xml-resolver:xml-resolver 1.1 (compile)

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In many cases, the use of open source code can allow companies to develop products more quickly and with less expense than if they wrote them with entirely original code. The fact that derivative products of BSD-licensed software are not required to be open source can be very useful for developers who want to create commercial products from open source code but who want to keep their modifications and/or extensions secret. Interestingly, companies that initially develop closed source products based on BSD-licensed code tend to be more likely to eventually make their source code publicly available than are companies that develop products that do not incorporate code code.

The issue of which license provides greater freedom and does the most to promote the development of improved software is highly controversial. In spite of the seeming simplicity of the licenses, there are no simple answers.

One of the most controversial properties of the GPL is its viral nature. This means that once some useful modification or addition to a GPL licensed program has been released, the source code of the modified or extended program must likewise be made freely available. That is, the GPL is a mechanism that deprives developers of the freedom to make their source code secret at some future date, although the developer can still use such code in commercial products. Critics of the GPL claim that this diminishes or destroys the commercial value of software because others can produce products that incorporate the same code.

GPL advocates claim that although the GPL is contagious in theory, it is not necessarily so in practice. Rather, they assert, it merely places restrictions on the code's re-use, as do BSD-style licenses.

One thing about both the GPL and the BSD-style licenses for which there is widespread agreement is that both have problems. Neither is perfect, and perhaps no license can be perfect. There is also considerable agreement that there are benefits both to software developers and to society as a whole from the choice provided by the existence of a variety of types of free software licenses, including the GPL and BSD-style licenses.

The "Advertising Clause"

The original version of the BSD license contained the so called advertising clause, which stated that all advertising materials that mention features of or use of the software must display the acknowledgment: "This product includes software developed by the University of California, Berkeley and its contributors."

One of the problems with this clause arose from the fact that people who made changes to the source code often wanted to have their names added to the acknowledgment. This could easily result in large and cumbersome acknowledgments for products with numerous contributors and for software distributions consisting of multiple individual projects.

A second problem was legal incompatibility with the terms of the GPL. This is because the GPL prohibits the addition of restrictions beyond those that it already imposes. Thus it was necessary to segregate GPL and BSD-licensed software within projects.

Initially, the "obnoxious BSD advertising clause," as it was referred to by GPL advocates, was used only for the BSD UNIX license. That did not cause any major problems because it was only necessary to include a single sentence of acknowledgment in any advertisement.

However, the fact that other software developers did not copy the clause verbatim, but replaced the phrase "University of California" with the name of their own organization or persons involved in it, resulted in a proliferation of slightly different licenses and a consequently serious problem when many

such programs were assembled to form a larger work or an operating system. For example, if an operating system or other program required fifty slightly different acknowledgment sentences, each naming a different developer or group of developers, such advertising alone might require a full page. Not only would this be very tedious reading, but it could also be costly.

In June 1999, after two years of discussion, the Office of Technology Licensing at UCB finally proclaimed: "Effective immediately, licensees and distributors are no longer required to include the acknowledgment within advertising materials. Accordingly, the foregoing paragraph of those BSD Unix files containing it is hereby deleted in its entirety."

This was clearly very useful. However, it could not eliminate the legacy of the advertising clause, as similar clauses still exist in the licenses of many programs that followed the old BSD license; only the developers of such packages can change them.

Examples of BSD-Style Licenses

Below are three examples of BSD-style licenses: (1) the BSD license as it is used by the FreeBSD operating system, (2) a BSD license as it is used by Sudo (a free utility program for Unix-like <> operating systems) and (3) a template of a BSD-style license that can be applied to any appropriate project:

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AuthorSun Microsystems <>, Oracle Corporation <>

Latest version1.1

Publisher <>Oracle Corporation <>

SPDX <> identifierCDDL-1.1

CDDL-1.0

Debian FSG compatible <>Yes

FSF <> approved <>Yes (only 1.0)[1] <>

OSI <> approved <>Yes (only 1.0)[2] <>

GPL compatible <>No[1] <>

Copyleft <>Yes, file-level[1] <>

Linking from code with a different licence <>Yes[1] <>

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The Free Software Foundation <> (FSF) considers it a free software license <>, but one which is incompatible <> with the GNU General Public License <> (GPL).[1]

<>

Terms

[edit <>]

Derived from the Mozilla Public License <> 1.1,[4] <> the CDDL tries to address some of the problems of the MPL.[5] <> Like the MPL, the CDDL is a weak copyleft <> license in-between GPL <> license and BSD <>/MIT <> permissive licenses <>, requiring only source code files under CDDL to remain under CDDL.

Unlike strong copyleft <> licenses like the GPL, mixing of CDDL licensed source code files with source code files under other licenses is permitted without relicensing. The resulting compiled software product ("binary") can be licensed and sold under a different license, as long as the source code is still available under CDDL, which should enable more commercial business cases, according to Sun.[5] <>[6] <>[7] <>

Like the MPL the CDDL includes a patent grant to the licensee from all contributors ("patent peace"). However, in section 2.1(d), the patent grant is lost if the code implementing a patented feature is modified.[8] <>

History

[edit <>]

The previous software license <> used by Sun <> for its open source <> projects was the Sun Public License <> (SPL), also derived from the Mozilla Public License <>. The CDDL license is considered by Sun <> (now Oracle <>) to be SPL <> version 2.[9] <>

The CDDL was developed by a Sun Microsystems <> team (among them Solaris <> kernel engineer Andrew Tucker[10] <>[11] <> and Claire Giordano[12] <>), based on the MPL <> version 1.1. On December 1, 2004 the CDDL was submitted for approval to the Open Source Initiative <>[12] <> and was approved as an open source license <> in mid January 2005. The second CDDL proposal, submitted in early January 2005, includes some corrections that prevent the CDDL from being in conflict with European Copyright law and to allow single developers to use the CDDL for their work.

In 2006, in the first draft of the OSI's license proliferation <> committee report, the CDDL is one of nine preferred licenses listed as popular, widely used, or with strong communities.[13] <>

While the Free Software Foundation <> (FSF) also considered the CDDL a free software <> license, they saw some incompatibilities <> with their GNU General Public License <> (GPL).[1] <>

GPL compatibility

[edit <>]

The question of whether and when both licenses are incompatible <> sparked debates in the free software domain in 2004 to 2006.[14] <>[15] <> For instance, the FSF considered the CDDL incompatible to their GPL license, without going into detail until 2016.[16] <>

CDDL is one of several Open Source Licenses <> which are incompatible with GPL <>. This characteristic was inherited from the MPL 1.1 (fixed with the MPL 2.0 according to the FSF[1] <>) and results from a complex interaction of several clauses:[14] <>[17] <> the root of the problem being GPL virality <>, similar to other cases of GPL incompatibility.[18] <> Some people argue that Sun (or the Sun engineer) as creator of the license made the CDDL intentionally GPL incompatible.[14] <> According to Danese Cooper <> one of the reasons for basing the CDDL on the Mozilla license was that the Mozilla license is GPL-incompatible <>. Cooper stated, at the 6th annual Debian conference <>, that the engineers who had written the Solaris kernel requested that the license of OpenSolaris be GPL-incompatible.[19] <>

Mozilla was selected partially because it is GPL incompatible. That was part of the design when they released OpenSolaris. ... the engineers who wrote Solaris ... had some biases about how it should be released, and you have to respect that.

Simon Phipps <> (Sun's Chief Open Source Officer at the time), who had introduced Cooper as "the one who actually wrote the CDDL".[20] <> did not immediately comment, but later in the same video, he says, referring back to the license issue, "I actually disagree with Danese to some degree".[21] <> while describing the strong preference among the engineers who wrote the code for a BSD-like license, which was in conflict with Sun's preference for something copyleft <>, and that waiting for legal clearance to release some parts of the code under the then unreleased GNU GPL v3 would have taken several years, and would probably also have involved mass resignations from engineers (unhappy with either the delay, the GPL, or both this is not clear from the video).

Later, in September 2006, Phipps rejected Cooper's assertion in even stronger terms.[22] <> Similarly, Bryan Cantrill <>, who was at Sun at that time and involved in the release of CDDL licensed software stated in 2015 that he and his colleagues expected in 2006 the fast emergence of CDDL licensed software into the Linux ecosystem and the CDDL being not an obstacle.[23] <>

cdrtools controversy

[edit <>]

The GPL compatibility question was also the source of a controversy behind a partial relicensing of cdrtools <> to the CDDL which had been previously all GPL. In 2006, the Debian <> project declared the cdrtools legally undistributable because the build system <> was licensed under the CDDL.[24] <>

The author, Jrg Schilling <>, claimed that smake <> is an independent project and does not violate the GPLv3 <>.[25] <> Schilling also argued that even though the GPL requires all scripts required to build the work to be licensed freely, they do not necessarily have to be under the GPL.[26] <>[27] <>[page needed <>] Thus not causing an incompatibility that violates the license <>.

He also argued that in "combined works" (in contrast to "derived works <>") GPL and CDDL licensed code is compatible.[28] <>[29] <>

Red Hat <>'s attorneys have prevented cdrtools from being in Fedora <> or Red Hat Enterprise Linux <>, arguing that Schilling has an "unorthodox" view of copyright law that isn't shared by their legal counsel or the Free Software Foundation.[30] <>

ZFS in the Linux kernel

[edit <>]

In 2015, the CDDL to GPL compatibility question reemerged when Ubuntu <> announced inclusion of OpenZFS <> by default.[31] <>

In 2016 Ubuntu announced that a legal review resulted in the conclusion that

it is legally acceptable to use ZFS as binary kernel module <> in Linux. (As opposed to building it into the kernel image itself.)[32] <>

Others followed Ubuntu's conclusion, for instance James E. J. Bottomley argued there cannot be "a convincing theory of harm" developed, making it impossible to bring the case to court.[33] <>

Eben Moglen <>, co-author of the GPLv3 <> and founder of the SFLC <>, argued that while the letter of the GPL might be violated, the spirit of both licenses is unharmed, which would be the relevant aspect in court.[34] <>

The SFLC mentioned also that a precedent exists with the Andrew File System <> 's kernel module, which is not considered a derivative work of the kernel by the kernel developers.[35] <>[36] <>

On the other hand, Bradley M. Kuhn <> and attorney Karen M. Sandler <> from the Software Freedom Conservancy <>[37] <> argued that Ubuntu would violate both licenses, as a binary ZFS module would be a derivative work of the kernel.[38] <> In April 2016, the Ubuntu <> 16.04 LTS <> release included the CDDL-licensed ZFS on Linux <>.[citation needed <>]

Adoption

[edit <>]

Example projects released under CDDL:

- * OpenSolaris <> (including DTrace <>, initially released alone, and ZFS <>)
- * illumos <> (as OpenSolaris OS/Net, continuation project) and illumos distributions <>[39] <>
- * OpenZFS <> multi platform open source volume manager and file system
- * NetBeans <> IDE and RCP
- * GlassFish <>
- * JWSDP <>
- * Project DReAM <>
- * cdrtools <>
- * OpenDJ <>

See also

[edit <>]

- * Free and open-source software portal <>
- * Dual-licensing <>
- * GNAT Modified General Public License <>
- * List of software licenses <>

References

[edit <>]

- * ^ a <> b <> c <> d <> e <> f <> g <> "Various Licenses and Comments About Them - Common Development and Distribution License"
<<https://www.gnu.org/licenses/license-list.html# CDDL>>. Free Software Foundation
. Retrieved2020-10-14.
- * ^ a <> b <> "Can code licensed under the CDDL be combined with code licensed under other open source licenses?"
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- * ^ a <> b <> CDDL Why Summary
<https://web.archive.org/web/20050214114513/http://www.sun.com/cddl/CDDL_why_summary.html>
on sun.com (archived, 2005)
- * ^ <> McNealy: CDDL is 'best of both worlds'
<<https://www.zdnet.com/article/mcnealy-cddl-is-best-of-both-worlds/>> on
zdnet.com by Aaron Tan (September 14, 2005)
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<<https://tldrlegal.com/license/common-development-and-distribution-license-%28cddl-1.0%29-explained>>
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October 2006. Retrieved 2020-07-18.
- * ^ <> "SPL to CDDL as of NetBeans 5.0 - Why change licenses?"
<<https://web.archive.org/web/20070224082827/http://www.netbeans.org/about/legal/license-change.html>>
. NetBeans. Archived fromthe original
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on 2007-02-24. Retrieved 2006-12-31. The SPL was based on the Mozilla license - as CDDL is as well. [...] One way to think of the CDDL is as a cleaned-up version of the Mozilla license - anyone can reuse it as-is. It's the SPL version 2.0.

* ^ <> "Andy Tucker on the CDDL"
<<https://alanhargreaves.wordpress.com/2005/04/12/andy-tucker-on-the-cddl/>>.
Alan Hargreaves' Blog. 12 April 2005.

* ^ <> Open source licenses, IP, and CDDL
<<https://web.archive.org/web/20061111055302/http://blogs.sun.com/tucker/>> on Andrew Tuckers blog, "as one of the drafters of the CDDL I can at least comment on what the license says, and on our intentions in creating it." (Tuesday April 12, 2005)

* ^ a <> b <> "For Approval: Common Development and Distribution License (CDDL)" <<https://lwn.net/Articles/114840/>>. 1 December 2004.

* ^ <> First draft of OSI's license proliferation report
<<https://web.archive.org/web/20120205011112/http://www.crynwrr.com/cgi-bin/ezmlm-cgi?3%3Amss%3A11636%3A200607%3Anknhhdligldemhkfhp>>

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2014-01-04 at the Wayback Machine <> on 2012-02-05. Retrieved 2013-01-03.

* ^ a <> b <> c <> "Sun Proposes New Open-Source License"
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on August 17, 2015.

* ^ <> "The Blog of Ben Rockwood"
<<http://cuddletech.com/blog/pivot/entry.php?id=31>>.

* ^ <> "Interpreting, enforcing and changing the GNU GPL, as applied to combining Linux and ZFS" <<https://www.fsf.org/licensing/zfs-and-linux>>. Free Software Foundation. April 11, 2016. Retrieved 2017-07-27.

* ^ <> "MPL / GPL Incompatibility"
<<http://www.tomhull.com/ocston/docs/mozgpl.html>>. Retrieved 2007-12-03.

* ^ <> chandan (2006-09-18). "Copyrights, Licenses and CDDL Illustrated"
<https://web.archive.org/web/20150529114715/https://blogs.oracle.com/chandan/entry/copyrights_licenses_and_cddl_illustrated>.
. blogs.oracle.com. Archived from the original
<https://blogs.oracle.com/chandan/entry/copyrights_licenses_and_cddl_illustrated>
on 2015-05-29. Retrieved 2015-05-29. A common misconception is about CDDL and GPL incompatibility. (Incompatibility in the sense: to combine two source files, one under GPL and another under CDDL, to create a common executable.)
GPL is incompatible with most licenses like Mozilla Public License, Apache, and CDDL. GPL wants you erase those licenses and use GPL in that place, where as these licenses do not permit erasing them. Hence the incompatibility deadlock.

* ^ <> Danese Cooper (2006). OpenSolaris and CDDL discussion at Debconf 2006
<https://meetings-archive.debian.net/pub/debian-meetings/2006/debconf6/theora-small/2006-05-14/tower/OpenSolaris_Java_and_Debian-Simon_Phipps_Alvaro_Lopez_Ortega.ogg>
(Ogg Theora <>). Event occurs at 27:26. Mozilla was selected partially because it is GPL incompatible. That was part of the design when they released OpenSolaris. ... the engineers who wrote Solaris ... had some biases about how it should be released, and you have to respect that (alternate URL
<https://web.archive.org/web/20110722120048/http://caesar.acc.umu.se/pub/debian-meetings/2006/debconf6/theora-small/2006-05-14/tower/OpenSolaris_Java_and_Debian-Simon_Phipps_Alvaro_Lopez_Ortega.ogg>
, see 27:27 through 28:24)

* ^ <> Simon Phipps (2006). OpenSolaris and CDDL discussion at Debconf 2006
<https://meetings-archive.debian.net/pub/debian-meetings/2006/debconf6/theora-small/2006-05-14/tower/OpenSolaris_Java_and_Debian-Simon_Phipps_Alvaro_Lopez_Ortega.ogg>
(Ogg Theora <>). Debconf <> 2006. Event occurs at 13:00. ...we have got Danese Cooper in the room, and she is the one who actually wrote the CDDL...
* ^ <> Simon Phipps (2006). OpenSolaris and CDDL discussion at Debconf 2006
<https://meetings-archive.debian.net/pub/debian-meetings/2006/debconf6/theora-small/2006-05-14/tower/OpenSolaris_Java_and_Debian-Simon_Phipps_Alvaro_Lopez_Ortega.ogg>
(Ogg Theora <>). Event occurs at 36:00. I actually disagree with Danese to some degree...
* ^ <> Phipps, Simon (2006-09-04). "Re: Danese Cooper claims CDDL made incompatible with GPL on purpose"
<<https://marc.info/?l=opensolaris-discuss&m=115740406507420>>.
OpenSolaris-Discuss List. Retrieved 2019-03-07. Nonetheless she is wrong to characterise the opinion of the Solaris engineering team in the way she does. She is speaking this way because she lost an argument inside Sun, not because her view is representative of the views of Sun or its staff in the way she claims. She, along with many actual engineers, was an advocate of using GPL for OpenSolaris but the need to release rather than wait for one of {GPL v3, Mozilla license revision, encumbrance removal} meant that this was not possible. I am still furious with her for the statement she made at DebConf, which was spiteful and an obstacle to a united FOSS movement.
* ^ <> Bryan Cantrill <> (2015-04-06). "I am the CTO of Joyent, the father of

DTrace and an OS kernel developer for 20 years. AMA!"

<https://www.reddit.com/r/IAmA/comments/31ny87/i_am_the_cto_of_joyent_the_father_of_dtrace_and/cq3bs9z?context=3>. Retrieved 2016-03-11. Question: Was the CDDL designed to prevent Sun technologies from entering Linux? - BC: Great question, and the answer was that we didn't know -- but the expectation was that it would be ported to Linux relatively quickly. I remember vividly standing over a terminal with a bunch of people as we actually launched OpenSolaris (like, clicked carriage return on making the DTrace code live -- which was the first in the chute), and the Sun Legal guy and I were chatting. We were both wondering if DTrace was going to show up in Linux in a month or if it would take two years. But that was the range of guesses: neither of us believed that the Linux community themselves would hold up CDDL as an obstacle, and certainly if you told me that a decade later, DTrace wouldn't be in Linux because of licensing FUD <>, I wouldn't have believed you. Of course, in hindsight, it all seems so clear: NIH <> is enormously powerful, and we were fools for discounting it.

* ^ <> "cdrtools - a tale of two licenses [LWN.net]"<<https://lwn.net/Articles/195167/>>. lwn.net. Retrieved 2020-07-18.

* ^ <> "Cdrtools (Cdrecord) release information"<<https://cdrecord.sourceforge.net/private/cdrecord.html>>. cdrtools.sourceforge.net. Retrieved 2020-07-18.

* ^ <> "The GNU General Public License"<<https://www.gnu.org/licenses/gpl.html>>. Retrieved 2009-10-24.

* ^ <> "Die GPL kommentiert und erklärt Online-Version"<<https://web.archive.org/web/20150908033333/http://www.oreilly.de/german/freebooks/gplger/>> (in German). O'Reilly. Archived from the original <<http://www.oreilly.de/german/freebooks/gplger>> on 2015-09-08. Retrieved 2010-11-17.

* ^ <> "Neuer Streit um cdrtools"<<http://www.pro-linux.de/news/1/10155/neuer-streit-um-cdrtools.html>>. Pro-Linux (in German). Laut Aussagen von Jrg Schilling sind die Lizizenzen durchaus miteinander kompatibel. Die Regeln werden oftmals falsch ausgelegt. Die Aussagen der FSF-Verantwortlichen seien oft widersprüchlich und in sich nicht schlüssig.

* ^ <> "OSSCC GPL" <<http://www.osscce.net/en/gpl.html>>.

* ^ <> "Forbidden items - Fedora Project Wiki"<https://fedoraproject.org/wiki/Forbidden_items#cdrtools>. fedoraproject.org. Retrieved 2020-07-18.

* ^ <> Michael Larabel <> (6 October 2015). "Ubuntu Is Planning To Make The ZFS File-System A "Standard" Offering" <https://www.phoronix.com/scan.php?page=news_item&px=Ubuntu-ZFS-Standard-Plans>. Phoronix <>.

* ^ <> Dustin Kirkland (18 February 2016). "ZFS Licensing and Linux" <<https://insights.ubuntu.com/2016/02/18/zfs-licensing-and-linux/>>. Ubuntu Insights. Canonical.

* ^ <> Are GPLv2 and CDDL incompatible? <<http://blog.hansenpartnership.com/are-gplv2-and-cddl-incompatible/>> on hansenpartnership.com by James E. J. Bottomley, "What the above analysis shows is that even though we presumed combination of GPLv2 and CDDL works to be a technical violation, there's no way actually to prosecute such a violation because we can't develop a convincing theory of harm resulting. Because this makes it impossible to take the case to court, effectively it must be concluded that the combination of GPLv2 and CDDL, provided you're following a GPLv2 compliance regime for all the code, is allowable." (23 February 2016)

* ^ <> Moglen, Eben <>; Choudhary, Mishi (26 February 2016). "The Linux Kernel, CDDL and Related Issues" <<https://softwarefreedom.org/resources/2016/linux-kernel-cddl.html>>.

* ^ <> Moglen, Eben <>; Choudhary, Mishi (26 February 2016). "The Linux Kernel, CDDL and Related Issues" <<https://softwarefreedom.org/resources/2016/linux-kernel-cddl.html>>.

Historically, there's been things like the original Andrew filesystem module: a standard filesystem that really wasn't written for Linux in the first place, and just implements a UNIX filesystem. Is that derived just because it got ported to Linux that had a reasonably similar VFS interface to what other UNIXes did? ... Personally, I think that case wasn't a derived work, and I was willing to tell the AFS guys so.

* ^ <> Copying <<https://git.kernel.org/cgit/linux/kernel/git/torvalds/linux.git/tree/COPYING>> on git.kernel.org "NOTE! This copyright does *not* cover user programs that use kernel services <> by normal system calls <> this is merely considered normal use of the kernel, and does *not* fall under the heading of "derived work"."

* ^ <> Software Freedom Law Center Appoints Two New Attorneys to Defend and Support Free and Open Source Software <<http://www.softwarefreedom.org/news/2005/oct/31/new-attorneys/>> (October 31, 2005)

* ^ <> GPL Violations Related to Combining ZFS and Linux <<https://sfconservancy.org/blog/2016/feb/25/zfs-and-linux/>> on sfconservancy.org by Bradley M. Kuhn <> and Karen M. Sandler <>, "Conservancy

(as a Linux copyright holder ourselves), along with the members of our coalition in the GPL Compliance Project for Linux Developers, all agree that Canonical and others infringe Linux copyrights when they distribute zfs.ko."

* ^ <> "illumos Distributions"

<<https://wiki.illumos.org/display/illumos/Distributions>>. The illumos Family.
illumos. 20 March 2017.

External links

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* Common Development and Distribution License (CDDL) Information

<<https://web.archive.org/web/20090304142159/http://www.sun.com/cddl/>>, archived fromthe original <<http://www.sun.com/cddl/>> on 2009-03-04

* "CDDL 1.0 copy at opensource.org" <<http://opensource.org/licenses/CDDL-1.0>>

. 31 October 2006. Retrieved 9 April 2013.

* Redline diffs between MPL1.1 and CDDL

<https://web.archive.org/web/20090304142159/http://www.sun.com/cddl/CDDL_MPL_redline.pdf>

(PDF), p. 9, archived from the original

<http://www.sun.com/cddl/CDDL_MPL_redline.pdf> (PDF) on 2009-03-04

* Summary description of changes

<https://web.archive.org/web/20090304142159/http://www.sun.com/cddl/CDDL_why_summary.html>

, archived fromthe original <http://www.sun.com/cddl/CDDL_why_summary.html> on

2009-03-04

* Detailed description of changes

<https://web.archive.org/web/20090304142159/http://www.sun.com/cddl/CDDL_why_details.html>

, archived fromthe original <http://www.sun.com/cddl/CDDL_why_details.html> on

2009-03-04

* FAQ on CDDL on Open Solaris Site

<https://web.archive.org/web/20071027082141/http://www.opensolaris.org/os/about/faq/licensing_faq>

* Copyrights, Licenses and CDDL Illustrated

<https://web.archive.org/web/20150529114715/https://blogs.oracle.com/chandan/entry/copyrights_licenses_and_cddl_illustrated> on oracle.com (2006)

* The Common Development and Distribution License

<<https://lwn.net/Articles/114839>>, Linux Weekly News <> Editorial (December 8, 2004)

* CDDL Analysis from a DFSG perspective, and Opinion Piece

<<http://soundadvice.id.au/blog/2005/02/04/#cddl>> (2005)

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* t <>

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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. 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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

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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. 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- 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.

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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

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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.

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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 interface-compatible 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.

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Origin

[edit <>]

Until the late 1960s, computersespecially large and expensive mainframe computers <>, machines in specially air-conditioned computer roomswere usually leased <> to customers rather than sold <>.[3] <>[4] <> Service and all software available were usually supplied by manufacturers without separate charge until 1969. Computer vendors usually provided the source code for installed software to customers.[citation needed <>] Customers who developed software often made it available to the public without charge.[5] <> Closed source means computer programs whose source code is not published except to licensees. It is available to be modified only by the organization that developed it and those licensed to use the software.

In 1969, IBM, which had antitrust <> lawsuits pending against it, led an industry change bystarting to charge separately for mainframe software <>[6] <>[7] <> and services, by unbundling hardware and software.[8] <>

Bill Gates <>' Open Letter to Hobbyists <>" in 1976 decried computer hobbyists' rampantcopyright infringement <> of software, particularly Microsoft'sAltair BASIC <> interpreter, and asserted that their unauthorized use hindered his ability to produce quality software. But the legal status of software copyright <>, especially for object code <>, was not clear until the 1983 appeals court ruling inApple Computer, Inc. v. Franklin Computer Corp <>.[9] <>[10] <>[11] <>

According to Brewster Kahle <> the legal characteristic of software changed also due to the U.S.Copyright Act of 1976 <>.[12] <> The Commission on New Technological Uses of Copyrighted Works <> concluded in 1978 with the recommendations that became the Computer Software Copyright Act of 1980.[13] <>

Starting in February 1983 IBM adopted an "object-code <>-only" model for a growing list of their software and stopped shipping much of the source code,[14] <>[15] <> even to licensees.

In 1983, binary software became copyrightable in the United States <> as well by theApple vs. Franklin <> law decision,[16] <> before which only source code was copyrightable.[17] <> Additionally, the growing availability of millions of computers based on the same microprocessor architecture created for the first time an unfragmented and big enough market for binary distributed software.[17] <>

Examples of proprietary operating systems include Microsoft Windows <>, Classic Mac OS <>, macOS <>, iOS <> and iPadOS <>.[18] <>

Types

[edit <>]

Free/Open Licenses <> Non-free Licenses

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[edit <>] This section is an excerpt from Software license Proprietary software licenses <>.[edit <https://en.wikipedia.org/w/index.php?title=Software_license&action=edit>] <>A brief, written-outbeta test <> software license issued by Macromedia <> in 1995 The tendency to license proprietary software, rather than sell it, dates from the time period before the existence, then the scope of software copyright protection wasclear <>. These licenses have continued in use after software copyright was recognized in the courts, and are considered to grant the company extra protection compared to copyright law.[19] <> According to United States federal law <>, a company can restrict the parties to which it sells but it cannot prevent a buyer from reselling the product. Software licensing agreements usually prohibit resale, enabling the company to maximize revenue.[20]

] <>

Traditionally, software was distributed in the form of binary object code <> that could not be understood or modified by the user,[21] <> but could be downloaded and run. The user bought a perpetual license to use a particular version of the software.[22] <> Software as service <> (SaaS) vendorswho have the majoritymarket share <> in application software <> as of 2023[update <https://en.wikipedia.org/w/index.php?title=Proprietary_software&action=edit>][23] <>rarely offer perpetual licenses.[24] <> SaaS licenses are usually temporary and charged on a pay-per-usage or subscription basis,[25] <> although other revenue models such asfreemium <> are also used.[26] <> For customers, the advantages of temporary licenses include reduced upfront cost, increased flexibility, and lower overall cost compared to a perpetual license.[22] <> In some cases, the steep one-time cost demanded by sellers of traditional software were out of the reach ofsmaller businesses <>, but pay-per-use SaaS models makes the software affordable.[27] <>

Mixed-source software

[edit <>]

Software distributions considered as proprietary may in fact incorporate a "mixed source" model including both free and non-free software in the same distribution.[28] <> Most if not all so-called proprietary UNIX <> distributions are mixed source software, bundling open-source components like BIND <>, Sendmail <>, X Window System <>, DHCP <>, and others along with a purely proprietarykernel <> and system utilities.[29] <>[30] <>

Multi-licensing

[edit <>] Main article: Multi-licensing <>

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<>

Legal basis

[edit <>] Further information: Software law <>, Software copyright <>, Software patent <>, and End-user license agreement <>
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[edit <>]

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[edit <>]

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[edit <>] Further information: Copy protection <>, Crippleware <>, and Price discrimination <>

Vendors typically limit the number of computers on which software can be used, and prohibit the user from installing the software on extra computers.[citation needed <>] Restricted use is sometimes enforced through a technical measure, such as product activation <>, a product key <> or serial number, a hardware key <>, or copy protection <>.

Vendors may also distribute versions that remove particular features, or versions which allow only certain fields of endeavor, such as non-commercial, educational, or non-profit use.

Use restrictions vary by license:

* Windows Vista Starter <> is restricted to running a maximum of three concurrent applications.

* The retail edition of Microsoft Office Home and Student 2007 <> is limited to non-commercial use on up to three devices in one household.

* Windows XP <> can be installed on one computer, and limits the number of network file sharing connections to 10.[42] <> The Home Edition <> disables features present in Windows XP Professional.

* Traditionally, Adobe <> licenses are limited to one user, but allow the user to install a second copy on a home computer or laptop.[43] <> This is no longer true with the switching to Creative Cloud.

* iWork '09 <>, Apple's productivity suite, is available in a five-user family pack, for use on up to five computers in a household.[44] <>

Inspection and modification of source code

[edit <>] See also: Open-source software <> and Crippleware <>

Vendors typically distribute proprietary software in compiled <> form, usually machine language <> understood by the computer's central processing unit <>.

They typically retain the source code <>, or human-readable version of the software, often written in a higher level programming language <>.[45] <> This scheme is often referred to as closed source.[46] <>

While most proprietary software is distributed without the source code, some vendors distribute the source code or otherwise make it available to customers. For example, users who have purchased a license for the Internet forum software vBulletin <> can modify the source for their own site but cannot redistribute it. This is true for many web applications, which must be in source code form when being run by a web server. The source code is covered by an disclosure agreement <> or a license that allows, for example, study and modification, but not redistribution.[47] <> The text-based email client Pine <> and certain implementations of Secure Shell <> are distributed with proprietary licenses that make the source code available.[citation needed <>] Some licenses for proprietary software allow distributing changes to the source code, but only to others licensed for the product, and some[48] <> of those modifications are eventually picked up by the vendor.

Some governments fear that proprietary software may include defects <> or malicious features <> which would compromise sensitive information. In 2003 Microsoft established a Government Security Program (GSP) to allow governments to view source code and Microsoft security documentation, of which the Chinese government <> was an early participant.[49] <>[50] <> The program is part of Microsoft's broader Shared Source Initiative <> which provides source code access for some products. The Reference Source License (Ms-RSL) and Limited Public License (Ms-LPL) are proprietary software licenses where the source code is made available <>.

Governments have also been accused of adding such malware to software themselves. According to documents released by Edward Snowden <>, the NSA <> has used covert partnerships with software companies to make commercial encryption software exploitable to eavesdropping, or to insert backdoors <>.[51] <>[52] <>

Software vendors sometimes use obfuscated code <> to impede users who would reverse engineer <> the software.[53] <> This is particularly common with certain programming languages <>.[citation needed <>] For example, the bytecode <> for programs written in Java <> can be easily decompiled <> to somewhat usable code,[citation needed <>] and the source code for programs written in scripting languages <> such as PHP <> or JavaScript <> is available at run time <>.[54] <>

Redistribution

[edit <>] Further information: Shareware <> See also: Freely redistributable software <>

Proprietary software vendors can prohibit the users from sharing the software with others. Another unique license is required for another party to use the software.

In the case of proprietary software with source code available, the vendor may also prohibit customers from distributing their modifications to the source code.

Shareware <> is closed-source software whose owner encourages redistribution at no cost, but which the user sometimes must pay to use after a trial period.

The fee usually allows use by a single user or computer. In some cases, software features are restricted during or after the trial period, a practice sometimes called crippleware <>.

Interoperability with software and hardware

[edit <>] Further information: Interoperability Software <>

Proprietary file formats and protocols

[edit <>] Further information: Proprietary format <> and Proprietary protocol

<>

Proprietary software often[citation needed <>] stores some of its data in file formats that are incompatible <> with other software, and may also communicate using protocols <> which are incompatible. Such formats and protocols may be restricted astride secrets <> or subject to patents <>.[citation needed <>]

Proprietary APIs

[edit <>]

A proprietary application programming interface <> (API) is a software library <> interface "specific to one device or, more likely to a number of devices within a particular manufacturer's product range."^[55] <> The motivation for using a proprietary API can be vendor lock-in <> or because standard APIs do not support the device's functionality.^[55] <>

The European Commission <>, in its March 24, 2004, decision on Microsoft's business practices,^[56] <> quotes, in paragraph 463, Microsoft general manager for C++ <> development Aaron Contorer as stating in a February 21, 1997, internal Microsoft memo drafted for Bill Gates <>:

The Windows API <> is so broad, so deep, and so functional that most ISVs would be crazy not to use it. And it is so deeply embedded in the source code of many Windows apps that there is a huge switching cost to using a different operating system instead.

Early versions of the iPhone SDK <> were covered by a non-disclosure agreement <>. The agreement forbade independent developers from discussing the content of the interfaces. Apple discontinued the NDA in October 2008.^[57] <>

Vendor lock-in

[edit <>] Further information: Vendor lock-in <>

Any dependency on the future versions and upgrades for a proprietary software package can create vendor lock-in, entrenching a monopoly position.^[58] <>

Software limited to certain hardware configurations

[edit <>]

Proprietary software may also have licensing terms that limit the usage of that software to a specific set of hardware. Apple <> has such a licensing model for macOS <>, an operating system which is limited to Apple hardware, both by licensing and various design decisions. This licensing model has been affirmed by the United States Court of Appeals for the Ninth Circuit <>.^[59] <>

Abandonment by proprietors

[edit <>] Main article: Abandonware <>

Proprietary software which is no longer marketed, supported or sold by its owner is called abandonware <>, the digital form of orphaned works <>. If the proprietor of a software package should cease to exist, or decide to cease or limit production or support for a proprietary software package, recipients and users of the package may have no recourse if problems are found with the software. Proprietors can fail to improve and support software because of business problems.^[60] <> Support for older or existing versions of a software package may be ended to force users to upgrade and pay for newer versions^[61] <> (planned obsolescence <>). Sometimes another vendor or a software's community themselves can provide support <> for the software, or the users can migrate to either competing systems with longer support life cycles or to FOSS <>-based systems.^[62] <>

Some proprietary software is released by their owner at end-of-life <> as

open-source or source available <> software, often to prevent the software from becoming unsupported and unavailable abandonware <>.[63] <>[64] <>[65] <> 3D Realms <> and id Software <> are famous for the practice of releasing closed source software into the open source <>.[further explanation needed <>] Some of those kinds are free-of-charge downloads (freeware <>), some are still commercially sold (e.g. Arx Fatalis <>).[further explanation needed <>] More examples of formerly closed-source software in the List of commercial software with available source code <> and List of commercial video games with available source code <>.

Pricing and economics

[edit <>] See also: Commercial software <>

Proprietary software is not synonymous with commercial software <>,[66] <>[67] <> although the two terms are sometimes used synonymously in articles about free software.[68] <>[69] <> Proprietary software can be distributed at no cost or for a fee, and free software <> can be distributed at no cost or for a fee.[70]] <> The difference is that whether proprietary software can be distributed, and what the fee would be, is at the proprietor's discretion. With free software, anyone who has a copy can decide whether, and how much, to charge for a copy or related services.[71] <>

Proprietary software that comes for no cost is called freeware <>.

Proponents of commercial proprietary software argue that requiring users to pay for software as a product increases funding or time available for the research and development <> of software. For example, Microsoft <> says that per-copy fees maximize the profitability of software development.[72] <>

Proprietary software generally creates greater commercial activity over free software, especially in regard to market revenues.[73] <> Proprietary software is often sold with a license that gives the end user right to use the software.

Technical support for proprietary software can often be provided only by employees of the company that created the program and such service is included with the software. However, a dedicated technical support system increases the cost of software maintenance, which has an impact on its price.[74] <>

See also

[edit <>]

- * Business software <>
- * Commercial off-the-shelf <>
- * Comparison of open-source and closed-source software <>
- * Proprietary hardware <>
- * Retail software <>
- * Enshittification <>

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