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**Testimony of**
## Carol A. Kunze,
**on behalf of**
## Red Hat, Inc.

Hearing before the
U.S. Copyright Office, Library of Congress and
the National Telecommunications and Information Administration,
Department of Commerce

November 29, 2000

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# Open Source/Free Software, Copyleft, and Section 109 of the Copyright Act

## Executive Summary

Digital products are different from non-digital products in that the former are generally accompanied by license rights and conditions. In the case of open source and free software, the license grants authorization to exercise certain of the copyright owner's exclusive rights in its work. These rights and conditions are an integral part of, and help to define the product. It is necessary that these licensed rights accompany the software for the product to retain its status as open source/free software.

The ability to make these licensed rights an inseparable part of the software product is in the best interest of users of open source and free software, and furthers the Constitutional goals underlying the Copyright Act. Red Hat urges the Copyright Office and the NTIA not to recommend any amendments to the Section 109 that would jeopardize the indivisibility of open source/free software and its attendant conditions and rights.

## Testimony

Software licensors like to say that the license *is* the product. That is vitally true of open source[1] and free software ("free" refers to freedom[2]). Digital products are different from non-digital products when the former are accompanied by a license which grants authorization to exercise certain of the copyright owner's exclusive rights in its work. These rights can be an integral part of, and help to define the product.

Red Hat distributes the Linux operating system, which is open source/free software. Open source and free software is distinct from traditional (proprietary) software in that it is produced by a generally voluntary, collaborative process, and accompanied by a license which grants users the right to;

1) have the source code,
2) freely copy the software,
3) modify and make derivative works of the software, and
4) transfer or distribute the software in its original form or as a derivative work, *without paying copyright license fees*. For additional information on the development and distribution of open source and free software, the licenses used, and its role in the business world, see Annex A.

Many open source and free software licenses also embody the concept known as *copyleft*. Simply put, this is the condition that all versions of the product, including derivative works, be distributed along with, and subject to the conditions *and rights* in the license under which they were received. This concept is central to the ability of a licensor to ensure that its product *remains* open source or free software.

The underlying principle is that improvements to a product are given back to the open source and free software community. In this way, open source and free software is continually improved, with the modifications being made available to all.

Without the ability to impose this condition on further distribution a copy, or a derivative work made pursuant to the authorization granted in the license, could be distributed without the right to copy, modify, distribute or have the source code - in effect it would be transformed into a proprietary work. It would cease to be "free".

The benefits of open source and free software are numerous. In practical and commercial terms, open source and free software is stable, high quality software, which users are free to tailor to their own purposes. As the source code is available to all, a user is free to remedy any bugs it may find, maintain the software itself, or hire a third party to do so. The availability of the source code also allows the creation of complementary and

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[1] See the Open Source Definition on the website of the Open Source Initiative <http://www.opensource.org/osd.html>.

[2] "*Free software* refers to the users' freedom to run, copy, distribute, study, change and improve the software." The definition of "free software" is found on the website of the Free Software Foundation at <http://www.fsf.org/philosophy/free-sw.html>.

interoperable programs by anyone and everyone, with no need to reverse engineer the product.

From the point of view of the purposes underlying the Copyright Act, open source and free software allows the user to study the program not only to fully understand the underlying ideas, but also in order to adapt, and improve the program, to freely build upon the original product to create new derivative works, and to make those derivative works available for others in turn to study, modify and redistribute.

Open source/free software is becoming increasingly important in the commercial and non-commercial worlds, and is poised to begin playing a critical role in support of national security, as well as the federal government's science and engineering research. Recently, the President's Information Technology Advisory Committee recommended to President Clinton the adoption of a "research strategy that uses free software development as the new model for answering America's high end computing software needs."[3] In order for open source/free software to retain the characteristics that made the Committee conclude that "the Federal government should aggressively encourage the development of open source software for high end computing"[4] the copyleft concept is needed so that the software remains open and free when improved and distributed.

Red Hat's interest today is to highlight the need for open source and free software licensors to ensure that third party transferees receive the *entire* product whose distribution was authorized by the licensor, including the license conditions and rights granted with the software.

Any amendment to Section 109 that might create a right to transfer copies of open source and free software *without* the accompanying license authorization, would seriously jeopardize licensors' and users' joint interest in maintaining a product's status as open source/free software, and would deprive transferees of important copyright authorizations which the original copyright owner intended them to have.

The concept of copyleft is of fundamental importance to the continued development and distribution of many open source and free software products, including Linux. We believe it constitutes a policy consideration that should inform any recommendation to amend Section 109 with respect to its application to digital products.

We urge the Copyright Office and the NTIA not to recommend amendments to Section 109 which would inadvertently jeopardize the ability to define an open source product as software *and* license rights.

Carol A. Kunze

Att: Annex A

[3] http://www.ccic.gov/ac/pitac_ltr_sep11.html.
[4] *Id.*

# ANNEX A

to Testimony of Carol A. Kunze on Behalf of Red Hat, Inc.,
November 29, 2000

## Open Source and Free Software

The open source/free software[5] movement represents a different paradigm[6] for both developing and distributing computer programs than the traditional forms of creating and distributing software. This software is generally distributed without the payment of license fees,[7] and its source code is publicly available, allowing others to review the code, and make improvements, resulting in the release of new versions.

Users are also free to modify the software (in copyright terms to make a derivative work), and to copy and redistribute the software either in its original form or as a derivative work, again without paying copyright license fees.

Open source and free software provide numerous benefits. First, the open process of creating the software results in more stable (fewer "crashes"), high-quality programs. The collaborative nature of the process results in bugs being identified more rapidly and fixed earlier, a natural consequence being that for any given release, a higher overall percentage of bugs will have been identified and eliminated.

Second, users are free to modify the program to meet their specific needs, giving the user substantial control over the software. This also means that users have the necessary source code to diagnose and remedy problems, and are authorized by the license to do so. Modifications that are distributed to others follow the same pattern. They can be distributed without paying a license fee, the source code is public, and everyone else is free to adopt and improve on those modifications. Eventually, widely-accepted modifications will be adopted into a new official version of the product.

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[5] "Open source software" and "free software" each have specific, although largely similar requirements.

The Open Source Definition <http://www.opensource.org/osd.html>, maintained by the Open Source Initiative <http://www.opensource.org> is based upon the earlier Debian Social Contract and the Debian Free Software Guidelines <http://www.debian.org/social_contract>.

The definition of "free software" is found on the website of the Free Software Foundation <http://www.fsf.org/fsf/fsf.html> at <http://www.fsf.org/philosophy/free-sw.html>. ``'Free software' refers to the users' freedom to run, copy, distribute, study, change and improve the software." *Id*.

The Free Software Foundation sponsors the GNU project which represents numerous free software programs, including the GNU/Linux operating system. GNU software is licensed under the GNU General Public License, which uses the copyleft principle. "[C]opyleft (very simply stated) is the rule that when redistributing the program, you cannot add restrictions to deny other people the central freedoms. This rule does not conflict with the central freedoms; rather it protects them." *Id.*

[6] In fact, it is actually a return to the early days of software when source code was freely shared amongst groups of programmers who all contributed to its development and distributed free with the computer.

[7] A typical open source license from the copyright owner does not require the payment of copyright license royalty fees for copying, modification or redistribution of the software.

Third, because the source code is publicly available, everyone has an equal opportunity to write companion software (*e.g.*, application software for an operating system such as Linux,[8] the most well-known example of this type of software, or software which needs to interface with an open source or free software program).

Fourth, the software can generally be obtained for free. While a CD-ROM version may be available for a price, it competes with the version that is available for free by downloading it from the Internet.[9]

Developing Open Source and Free Software

Open source and free software is created through a collaborative effort. Initial code for a program is written and available for review by information on the project circulating through postings on websites, listserves, email messages to interest groups, newsgroups, *etc.* Interested programmers study the code and start making suggestions and providing code to the original programmer who oftentimes becomes the manager of the collaborative project. Bugs will be identified and code supplied to fix the problem.

All suggestions and proffered code are reviewed and tested. Those changes that are accepted are incorporated into the program and eventually the software is released by the project manager in an official version. This does not signal the end of the effort; it is merely an important step in an ongoing process. Those contributing to the project begin reviewing the code for the released version and the software continues to be improved and developed. Programmers may leave the project and new programmers will join as time goes on.

Many of these projects are originated, developed and released from well-known websites maintained by non-profit organizations[10] and other sites which act as centers for open source and free software development.[11]

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[8] Linux is a trademark of Linus Torvalds.

[9] See *e.g.*, the Standard Red Hat Linux operating system available by download for free <http://www.redhat.com/apps/download/>, and available for purchase on CD-ROMs <http://www.redhat.com/apps/commerce/redhatlinux.html>, the latter version accompanied by a period of free software updates and installation support. Open source non-profit organizations often finance at least a portion of their operations by distributing for a price CD-ROMs of open source and free software products. See *e.g.*, <http://www.gnu.org/order/order.html>.

[10] See *e.g.*, the Debian website <http://www.debian.org> and its non-profit sponsor, Software in the Public Interest <http://www.spi-inc.org> and the GNU website <http://www.gnu.org>, sponsored by the non-profit Free Software Foundation <http://www.fsf.org/fsf/fsf.html>.

[11] *E.g.*, Freshmeat.net <http://www.freshmeat.net>, sourceXchange <http://www.sourceXchange.com>, Cosource.com <http://www.cosource.com>, Open Source Development Network <http://osdn.com>, and Red Hat Developer Network <http://www.redhat.com/devnet>, just to name a few.

More recently, traditional software companies are beginning to adopt the publicly collaborative open process by re-releasing software developed previously by the company along with its source code.[12]

Countless websites, online and print journals[13] now cater to this market of users and developers, further helping to publicize the released products and the ongoing projects available.

The Licenses

Open source and free software licenses are public documents, known by name[14] and reused for many different products from different sources, the most popular by far being the GNU General Public License, known as the GPL.[15]

The terms of the different licenses are publicly available from multiple locations on the Internet.[16] Both the Open Source Initiative and the Free Software Foundation maintain webpages with links to the terms of various licenses.[17] The benefits and detriments of the various provisions are vigorously discussed and debated on the Internet, and compared and contrasted in books, news groups, websites and listserves.

The Free Software Foundation reviews licenses for consistency with its definition of free software and maintains a webpage which explains the "Categories of Free and Non-Free Software"[18] as well as a webpage which lists and explains which licenses are compatible with the GNU GPL.[19]

In 1999, the Open Source Initiative,[20] a non-profit organization dedicated to, among other things, promoting a common understanding of the meaning of "open source" software, began a certification program for software. Suppliers whose software license meets the

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[12] The most well-known example is the release of the source code for Netscape's browser software. More recently, Sun decided to release StarOffice under the GPL <http://www.sun.com/openoffice>.
[13] *E.g.*, Slashdot <http://www.slashdot.org>, SourceForge <http://sourceforge.net/>, Linux.com <http://www.linux.com>, Linux Journal <http://www2.linuxjournal.com>, and Linux Magazine <http://www.linuxmagazine.com>, to name a few.
[14] *E.g.*, the GPL <http://www.gnu.org/copyleft/gpl.txt>, BSD <http://opensource.org/licenses/bsd-license.html>, Artistic <http://www.perl.com/language/misc/Artistic.html>, Mozilla <http://www.mozilla.org/MPL/MPL-1.0.html>.
[15] One survey revealed that in 1999 more than 60% of the more than 5000 open source software products available from a specific open source website <freshmeat.net> were released under the GPL <http://freeworldlicence.org/other_licences.shtml>.
[16] It is a common practice for an open source software website, even if it uses its own unique license to distribute its products, to maintain a webpage with links to other common open source licenses. See *e.g.*, lists of open source software licenses at <http://freeworldlicence.org/other_licences.shtml> and <http://www.gnu.org/philosophy/license-list.html>.
[17] See <http://www.opensource.org/licenses/> and <http://www.gnu.org/philosophy/license-list.html>.
[18] <http://www.gnu.org/philosophy/categories.html>.
[19] <http://www.gnu.org/philosophy/license-list.html>.
[20] <http://www.opensource.org>.

OSI's Open Source Definition[21] may then indicate that the software is OSI certified as "Open Source."

Thus, many open source and free software licensors who wish to draft a new license instead of using an existing license, will submit their terms to the OSI for certification, often having modeled their terms after provisions which have already been accepted. While it is the OSI Board which makes certification decisions, the OSI has established a listserve on which the license terms are made available and publicly discussed by the Board members and anyone who wishes to subscribe to the listserve. Some of the more traditional enterprises which have decided to release the source code for a product, have adopted a well-known already certified license,[22] others have drafted their own and submitted them for certification.[23]

In some cases software will be distributed under more than one license.[24] This may occur as a result of feedback from users and developers who seek the ability to use the code in a way the original license does not grant. Rather than simply add the new provision, which would mean that the well-known name of the license could no longer be used to signal what rights were granted, the product may simply be released under another well-known license that grants the requested right.[25]

The Business World - Service, Not Sales

The challenge for entrepreneurs interested in open source and free software, was how to create a profitable enterprise around the distribution of software for which the business does not collect license fees.[26] The solution was simple: sell service and support instead of software.

Thus, businesses have sprung up which collect the various software products, integrate them into a package, test all the components to ensure they work together, and provide that tested package to the user.[27] There are no license fees for the software. The price of the package is based on the value added by the business and the convenience value of

[21] <http://www.opensource.org/osd.html>.
[22] Such as Sun's release of StarOffice under the GPL <http://www.sun.com/openoffice>.
[23] When Netscape decided to convert its browser software to an open source product by releasing the source code to the public, it consulted extensively with members of the open source community on acceptable license terms for the Netscape Public License <http://www.mozilla.org/MPL/NPL-1.1.html>. IBM, the Mitre Corp., and Ricoh Silicon Valley, Inc. have had software accepted for certification. See <http://opensource.org/licenses>.
[24] For instance, Perl is distributed both under the Artistic license and the GPL and it has recently been announced that Mozilla, which is distributed under its own open source license, will also be available under the GPL.
[25] The other primary benefit is that one need not apply for a new OSI certification if the new license has already been certified. See discussion *infra*.
[26] As noted in the text *supra*, CD-ROM versions of a product may be distributed for a fee, but they must compete with free download versions.
[27] Some examples are Red Hat Inc., TurboLinux Inc., and MandrakeSoft, Inc.

obtaining the product on a disk or CD-ROM instead of downloading it from the Internet. To the extent there are any improvements or modifications to any of the software itself, those changes are made freely available for anyone else to adopt as the source code is, as generally required by the license, made public.

Similarly, service arrangements are offered to assist in installation, integrate a new product with existing software or hardware, and provide ongoing support. For example, as demand has grown for the operating system Linux, hardware manufacturers have needed assistance and ongoing support in integrating the program into their computer hardware.[28] Services are also being offered to customize software, which allows a product to be tailored to specific business needs. Of course, there is also a growing market for training, as well as books, guides and other printed documentation on how to use the various software products.

[28] Compaq, Sun Microsystems. Dell, IBM and Hewlett-Packard are just some of the companies who now provide hardware with Linux already installed.