

Open Source Business Resource, February 2009: Commercialization

[HOME](#) [ABOUT](#) [LOG IN](#) [REGISTER](#) [SEARCH](#) [CURRENT](#) [ARCHIVES](#)
[UPCOMING THEMES](#) [TIM LECTURE SERIES](#) [SPONSORS](#) [BLOG](#) [MULTIMEDIA](#)

[Home](#) > [February 2009: Commercialization](#) > [Wheeler](#)

F/LOSS is Commercial Software, David A. Wheeler

"The software created by open source communities became so powerful that commercial interests embraced those communities, supported them, learned from them and now are using the mechanisms of open source to make their businesses run better. This embrace has extended so long that commercial open source and open source are virtually synonymous." [Dan Woods](#)

Many people mistakenly use the term "commercial software" as if it was the opposite of Free/Libre Open Source Software (F/LOSS). This is in spite of: i) the rise in commercial development and support for F/LOSS; ii) the goal of most F/LOSS projects to incorporate improvements, which is actually a form of financial gain; iii) official definitions of "commercial item" that include F/LOSS; and iv) F/LOSS licenses and projects that clearly approve of commercial support.

In reality, there are two types of commercial software: proprietary software and F/LOSS. This paper provides examples for each of the four points mentioned above, briefly notes some alternative terms, and ends with some conclusions, explaining why it is important to understand that F/LOSS software is almost always commercial.

Defining Key Terms

Let's first define our key terms:

F/LOSS: can be briefly defined as software with a license that gives users the freedom to run the program for any purpose, to study and modify the program, and to redistribute copies of either the original or modified program without having to pay royalties to previous developers.

Commercial: the New York Times' Everyday dictionary defines commercial as: "a) oriented to profit-making, or more generally b) of, pertaining to, or suitable for commerce, where commerce means intercourse, dealings, the buying and selling of commodities, or trade." In other words, something oriented toward profit or at least something pertaining to public trade or dealings.

Commercial Item: US law governing federal procurement [defines](#) "commercial item" to include "Any item, other than real property, that is of a type customarily used by the general public or by non-governmental entities for purposes other than governmental purposes, and that (i) Has been sold, leased, or licensed to the general public; or (ii) Has been offered for sale, lease, or license to the general public".

As F/LOSS has become more prominent in the computer industry, many have tried to differentiate F/LOSS from software released under other license terms. Unfortunately, some use the term "commercial" as something distinct from F/LOSS. Those who differentiate between F/LOSS and commercial products, as if they were opposites, fail to understand what is happening in the software industry. Let's examine why treating F/LOSS and commercial as opposites is fundamentally flawed.

F/LOSS is Increasingly Commercially Developed and Supported

In the world of software, F/LOSS is being increasingly supported by for-profit industry heavyweights with billions of dollars on the line. In 2004, it was noted that 37,000 of the last 38,000 changes in the Linux kernel were made by developers specifically paid to make those changes. In 2001, IBM invested \$1 billion in Linux and a year later had already almost completely recouped that investment, suggesting some astounding returns on investment. My paper [Why OSS/FS? Look at the Numbers](#) shows that market after market is being affected by the influx of F/LOSS.

A 2008 report from consulting company [Bluewolf](#) found that "the advancement of open source software is triggering an increasing need for specialized application developers...higher-end, more complex application development proves difficult to complete overseas...The rise of open source software in application development puts developers with a specialization in those technologies in a position to ask for a 30 or 40 percent pay increase". Venture capitalist (VC) behavior also shows that presuming F/LOSS is non-commercial is a mistake. InfoWorld's Savio Rodrigues [reported](#) in 2007 that VCs invested a sum total of \$1.44 billion in F/LOSS over the period 2001-2006. While not every investment will yield reasonable returns, VC investment is a pretty good sign that F/LOSS is a commercial industry.

Some non-profit organizations support F/LOSS, but were created to support the for-profit commercial industry. For example:

1. The X Window System is supported by the X.Org Foundation (<http://x.org>), a company organized as a scientific charity under US IRS code 501(c)(3). It was "chartered to develop and execute effective strategies that provide world-wide stewardship of the X Window System technology and standards," including to "research, develop, support, organize, administrate, standardize, promote, and defend the X Window System." The X.org Foundation members come from various organizations, many of which are for-profit, and are members because X Windows is critical to their business.
2. The Firefox web browser is supported by the Mozilla Foundation (<http://www.mozilla.org/>), which exists "to provide organizational, legal, and financial support for the Mozilla open-source software project and its mission to preserve choice and promote innovation on the Internet." The Mozilla Foundation is incorporated as a California not-for-profit corporation. In August, 2005 it established the Mozilla Corporation, a taxable wholly-owned subsidiary of the Foundation. In 2005, the Mozilla Foundation and Mozilla Corporation had a combined revenue of \$52.9M and \$8.2M in expenses.

Motivations for the use or support of F/LOSS differ among commercial organizations. Many view F/LOSS as a better support infrastructure for the product or service they actually sell, providing cost avoidance by cost sharing. Others give away the F/LOSS and sell support, training, and/or customization. Many for-profit organizations realize the value of commoditizing complements, where you sell more of product if the things related to it, which you don't sell, are cheaper. Dr. Marco Iansiti and Gregory L. Richards concluded that F/LOSS projects with a large amount of commercial investment involved companies with an economic reason to invest (<http://www.hbs.edu/research/pdf/07-028.pdf>).

Even if you limit yourself to the profit-oriented definition of commercial, where profit is only measured using money, F/LOSS is not the opposite of commercial. Someone using commercial as the opposite of F/LOSS will have trouble explaining why Red Hat is listed in the New York stock exchange. Indeed, Red Hat, Novell/SuSE, IBM, Sun Microsystems, and Microsoft have all released at least one F/LOSS product. If you include the wider definition of commercial that means "public trade", nearly all F/LOSS projects are commercial.

F/LOSS Projects Do Seek Financial Gain

Most F/LOSS projects give their users more rights than proprietary products with the expectation that

others are likely to contribute back with new/improved code, documentation, and bug reports. Thus, even non-profit F/LOSS projects are trying to achieve financial gain through additional and improved software instead of money.

As Linux creator Linus Torvalds [noted](#) in a 2003 letter to SCO, the law that creates and defines copyrights in the US explicitly defines the term "financial gain" as including "receipt, or expectation of receipt, of anything of value, including the receipt of other copyrighted works." While F/LOSS projects may not receive money directly, they typically receive something of value in return and nearly all F/LOSS projects attempt to create wealth in the form of improved software. They attempt to create this wealth through trade and dealings, a fundamentally commercial notion.

The US Court of Appeals for the Federal Circuit stated in their ruling on [Jacobsen v. Katzer](#) that "Traditionally, copyright owners sold their copyrighted material in exchange for money. The lack of money changing hands in open source licensing should not be presumed to mean that there is no economic consideration, however. There are substantial benefits, including economic benefits, to the creation and distribution of copyrighted works under public licenses that range far beyond traditional license royalties. For example, program creators may generate market share for their programs by providing certain components free of charge. Similarly, a programmer or company may increase its national or international reputation by incubating open source projects. Improvement to a product can come rapidly and free of charge from an expert not even known to the copyright holder. The Eleventh Circuit has recognized the economic motives inherent in public licenses, even where profit is not immediate".

F/LOSS and US Government Procurement

The US government's official definition of "commercial item" makes it clear that nearly all F/LOSS programs are considered commercial items. This definition is important, as the US law governing federal procurement is reflected in the Federal Acquisition Regulation (FAR) System which is widely used for acquisition. The FAR specifically requires that US government agencies shall, by policy, try to use commercial items or nondevelopmental items wherever they can. More specifically, section 12 requires agencies to "(a) Conduct market research to determine whether commercial items or nondevelopmental items are available that could meet the agency's requirements; (b) Acquire commercial items or nondevelopmental items when they are available to meet the needs of the agency; and (c) Require prime contractors and subcontractors at all tiers to incorporate, to the maximum extent practicable, commercial items or nondevelopmental items as components of items supplied to the agency." Since governments need a lot of software not developed exclusively for governmental use, the policy in the FAR turns out to be a rather strong requirement to use commercial items wherever possible.

The FAR defines a nondevelopmental item as "(1) Any previously developed item of supply used exclusively for governmental purposes by a Federal agency, a State or local government, or a foreign government with which the United States has a mutual defense cooperation agreement; (2) Any item described in paragraph (1) of this definition that requires only minor modification or modifications of a type customarily available in the commercial marketplace in order to meet the requirements of the procuring department or agency; or (3) Any item of supply being produced that does not meet the requirements of paragraphs (1) or (2) solely because the item is not yet in use".

FAR section 2 defines a commercial item as "Any item, other than real property, that is of a type customarily used by the general public or by non-governmental entities for purposes other than governmental purposes, and (i) Has been sold, leased, or licensed to the general public; or (ii) Has been offered for sale, lease, or license to the general public". The Department of Defence (DoD) policy memo Commercial Acquisitions, found as Appendix A in the same handbook, explains that the benefits of commercial item acquisition include "increased competition; use of market and catalog prices; and access to leading edge technology and 'non-traditional' business segments". Those who

created these definitions and policies anticipated changes in the commercial market. US policy is to embrace changes in the commercial marketplace where appropriate.

According to FAR, there are additional ways that a program can be considered a commercial item: "Any item that evolved from an item described in paragraph (1) of this definition through advances in technology or performance and that is not yet available in the commercial marketplace, but will be available in the commercial marketplace in time to satisfy the delivery requirements under a Government solicitation". So, even if the F/LOSS isn't released to the public yet, it is still commercial as long as it will be released in time. This can be helpful for F/LOSS bounty systems where people commit money in exchange for the creation of a F/LOSS result. If funding is committed to create a F/LOSS project that will be released to the public in time, it can still be considered commercial. This part of the definition also enables "ransomed F/LOSS", where a program is already implemented but will only be released as F/LOSS if enough money is gathered.

Further, "Any item that would satisfy a criterion expressed in paragraphs (1) or (2) of this definition, but for: (i) Modifications of a type customarily available in the commercial marketplace; or (ii) Minor modifications of a type not customarily available in the commercial marketplace made to meet Federal Government requirements. Minor modifications means modifications that do not significantly alter the nongovernmental function or essential physical characteristics of an item or component, or change the purpose of a process. Factors to be considered in determining whether a modification is minor include the value and size of the modification and the comparative value and size of the final product. Dollar values and percentages may be used as guideposts, but are not conclusive evidence that a modification is minor". Thus, a government acquisition program can obtain a F/LOSS program, pay for minor modifications to meet its needs, and still consider it a commercial item. Combinations are still considered commercial items as "Any combination of items meeting the requirements of paragraphs (1), (2), (3), or (5) of this definition that are of a type customarily combined and sold in combination to the general public".

Commercial companies that sell support for F/LOSS programs also meet the definition for being a commercial item: "Installation services, maintenance services, repair services, training services, and other services if (i) Such services are procured for support of an item referred to in paragraph (1), (2), (3), or (4) of this definition, regardless of whether such services are provided by the same source or at the same time as the item; and (ii) The source of such services provides similar services contemporaneously to the general public under terms and conditions similar to those offered to the Federal Government".

The broadness of the US government definition is [intentional](#) because it "enables the Government to take greater advantage of the commercial marketplace". The Department of Defence (DoD) policy memo Commercial Acquisitions, found as Appendix A in the same handbook, explains that the benefits of commercial item acquisition include "increased competition; use of market and catalog prices; and access to leading edge technology and 'non-traditional' business segments". Those who created these definitions and policies anticipated that there will be changes in the commercial market and US policy is to embrace changes in the commercial marketplace where appropriate.

An acronym used by many governments is COTS, for "Commercial Off-The-Shelf" software. Nearly all F/LOSS programs are COTS, and officially so in the US. The paper COTS Based Software Development and Integration [defines](#) the term COTS as being: i) commercial, essentially per the FAR definition and ii) off-the-shelf, meaning that it already exists. F/LOSS programs that are already licensed to the public and have some non-governmental use are COTS.

F/LOSS Within the US DoD

Department of the Navy CIO Robert J. Carey signed a 2007 [memorandum](#) to make this clear. He notes that misconceptions about whether or not F/LOSS qualifies as COTS or GOTS (government off-

the-shelf) software has hindered the Navy's ability to fully utilize open source software (OSS). The memo states that the Navy will "treat OSS as COTS when it meets the definition of a commercial item". It aligns with previous policy directives, such as [Open Source Software \(OSS\) in the Department of Defense \(DoD\)](#) and [Memorandum M-04-16 on Software Acquisition](#). These explicitly state that the US Department of Defense and the entire US federal government are neutral with respect to F/LOSS which must be given the same consideration as other software. F/LOSS is clearly identified as commercial in [Memo M-03-14 on Reducing Cost and Improving Quality in Federal Purchases of Commercial Software](#). The memo states that its SmartBuy initiative to consolidate purchases will include "open source software support".

The DoD's [Instruction 8500.2](#) lists various rules for deploying applications. Many DoD systems are subject to the 8500.2 control DCPD-1, or Public Domain Software Controls, and some have mistakenly thought that this text prevents the use of OSS in the DoD. That impression arises from only reading the first part of its text: "Binary or machine executable public domain software products and other software products with limited or no warranty such as those commonly known as freeware or shareware are not used in DoD information systems unless they are necessary for mission accomplishment and there are no alternative IT solutions available". However, the text ends this way: "The assessment addresses the fact that such software products are difficult or impossible to review, repair, or extend, given that the Government does not have access to the original source code and there is no owner who could make such repairs on behalf of the Government." This closing text means that the entire control does not apply to F/LOSS, since by definition F/LOSS includes source code that can be read, modified, and re-released. Further, nearly all F/LOSS programs have an owner who can make repairs on behalf of the government, though this isn't required. This control is focused on countering the risks of abandoned binary-only programs whose source code is not available.

Section 2.4 of [The Desktop Application Security Technical Implementation Guide](#) directly discusses OSS. It states that the DoD does not require "that operating system software be obtained through a valid vendor channel and have a formal support path, if the source code for the operating system is publicly available for review." It notes that "open source software takes several forms", and specifically says that:

1. "A utility that has publicly available source code is acceptable.
2. A commercial [proprietary] product that incorporates open source software is acceptable because the commercial vendor provides a warranty.
3. Vendor supported open source software is acceptable.
4. A utility that comes compiled and has no warranty is not acceptable."

The National Security Agency's (NSA) website states that "NSA initiatives in enhancing software security cover both proprietary and open source software, and we have successfully used both proprietary and open source models in our research activities." The NSA provides guides for both proprietary and OSS products.

In summary, official US documents, including US law, lead to the conclusion that F/LOSS is commercial, and that it's perfectly fine to use F/LOSS.

F/LOSS Approval of Commercial Support

F/LOSS licenses make it clear that F/LOSS developers typically have no issue with commercial development and support, even within the narrower definition of commercial as for-profit. Many projects are established by commercial organizations as a kind of consortia, while others are established by single commercial organizations such as Sun's MySQL and Trolltech's Qt.

The [Free Software Definition](#) states that "Free software does not mean non-commercial. A free program must be available for commercial use, commercial development, and commercial

distribution. Commercial development of free software is no longer unusual; such free commercial software is very important."

The [Open Source Definition](#) states in point 6 that "The license must not restrict anyone from making use of the program in a specific field of endeavor. For example, it may not restrict the program from being used in a business...Rationale: The major intention of this clause is to prohibit license traps that prevent open source from being used commercially. We want commercial users to join our community, not feel excluded from it."

The Free Software Foundation's article [Selling Free Software](#) states that: "we encourage people who redistribute free software to charge as much as they wish or can. If this seems surprising to you, please read on... When we speak of "free software", we're talking about freedom, not price... Since free software is not a matter of price, a low price isn't more free, or closer to free. So if you are redistributing copies of free software, you might as well charge a substantial fee and make some money. Redistributing free software is a good and legitimate activity; if you do it, you might as well make a profit from it."

The most popular F/LOSS license, the GNU General Public License Version 2 (GPLv2), includes one method for copying and distributing the program ("method 3c") which can only be used for non-commercial distribution. Since other methods are not so encumbered, the clear implication is that for-profit distribution methods are permitted, as long as they obey the license.

While the vast majority of F/LOSS developers are happy with for-profit commercial development and support of F/LOSS, they do not support companies that violate the program license or try to find and exploit legal loopholes. Organizations that violate F/LOSS licenses have been brought into court. Many F/LOSS developers become upset with companies that fail to obey F/LOSS software licenses, and external observers sometimes misunderstand this anger as a general opposition to commercial use. Such anger is directed at violators, not to commercial users in general. All commercial software developers, both proprietary and F/LOSS, expect their users to obey the license provided or to negotiate something else.

Advocates of the various F/LOSS licenses often argue whether the BSD, GPL, or the LGPL is the most business-friendly F/LOSS license. The reality is that different licenses are better for different business models. What's interesting here is that so many in the F/LOSS community are arguing about which F/LOSS license is best for commercial use. This clearly demonstrates that commercial utility is considered by many to be an important property of a license.

Others Acknowledge Commercial F/LOSS

In chapter four of his book [Open Source Licensing: Software Freedom and Intellectual Property Law](#), Larry Rosen says "The word proprietary is often confused with the word commercial. But a commercial license--which is merely a term used to describe a license used in commerce--can be either open source or proprietary." The Free Software Foundation has been distinguishing the terms commercial and proprietary for years.

Microsoft's relationship with F/LOSS is complicated; they use many F/LOSS components in their products, they produce some F/LOSS products such as WiX and IronPython, and they run the CodePlex site which encourages F/LOSS products. While their money is primarily made by selling proprietary products that compete with F/LOSS, Microsoft acknowledges the existence of commercial F/LOSS products.

Commercialization is so important that many governments have established organizations and research tasks on commercial F/LOSS. The European Union has examined the economic impact of OSS on innovation and competitiveness in its Information and Communication Technologies (ICT)

sector and has found it to be substantial. COSS, the Finnish Centre for Open Source Solutions, is a national development agency for an open source business ecosystem. UC Davis researchers have received a three-year, \$750,000 grant from the US National Science Foundation to study how F/LOSS is built.

Alternative Antonyms

The most common antonym for F/LOSS is "proprietary software", though there are other terms like "closed source", "non-free", and "non-FLOSS". Most terms have minor problems:

Proprietary software is also used to describe software that: i) uses its own formats or protocols instead of open standards; or ii) is never brought to market directly, such as software included as a custom system sub-component specifically to prevent acquirers from switching to another supplier. Still, when people use this term, they usually mean the opposite of F/LOSS.

Closed source has a different problem as this phrase is used by some to mean that the source code is not available. Yet, there are some programs whose source code is available but which are not F/LOSS programs, making the term confusing.

Non-free has the connotation of "costs money".

Non-FLOSS is the most unambiguous, but few use the term.

I tend to use "proprietary software" as the antonym, as it is the most widely used and thus better understood. Any of these terms is better as an antonym compared to "non-commercial".

Conclusions

Terms like "proprietary software" or "closed source" are plausible antonyms of F/LOSS, but "commercial" is not. Even within the narrower definition for commercial that means "for-profit", there are too many for-profit F/LOSS projects for this use to make any sense. When you consider the full set of meanings for "commercial", including the one involving public trade, nearly all F/LOSS projects are commercial. In short, there are two kinds of commercial software: proprietary and F/LOSS.

This has real-world implications. Many organizations prefer commercial software to home-grown software for which they must pay all of the maintenance costs. Such organizations must search for and evaluate F/LOSS projects when they search for commercial software, and if there isn't an appropriate product available, they need to consider starting such a F/LOSS project as one possible implementation approach. If acquirers ignore F/LOSS options, they are ignoring an important and growing part of the commercial sector.

Anyone who uses the term commercial as an antonym for F/LOSS doesn't understand F/LOSS. Be wary of people who have such a basic lack of understanding; they are far less likely to give good software advice or to make good software-related decisions.

This article is based upon the paper [Free-Libre / Open Source Software \(FLOSS\) is Commercial Software](#) which is available at the author's website.

Recommended Resources

[From Open Source to Long-Term Sustainability: Review of Business Models and Case Studies](#)

[The Business of Free Software: Enterprise Incentives, Investment, and Motivation in the Open Source Community](#)

[How Does the Capitalist View Open Source?](#)

[Open Source Software: The Other Commercial Software](#)

[Free and Open Source Software: Overview and Preliminary Guidelines for the Government of Canada](#)

Comments on this article

- salman bakht (2009-02-06)

[VIEW ALL COMMENTS](#)