LINUX CORPS

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Open Source Software Principles and Politics

What is Open Source?

The basic idea behind open source is very simple: When programmers can read, redistribute, and modify the source code for a piece of software, the software evolves. People improve it, people adapt it, people fix bugs. And this can happen at a speed that, if one is used to the slow pace of conventional software development, seems astonishing.

The open source community have learned that this rapid evolutionary process produces better software than the traditional closed model, in which only a very few programmers can see the source and everybody else must blindly use an opaque block of bits.

Open Source Initiative exists to make this case to the commercial world.

Open source software is an idea whose time has finally come. For twenty years it has been building momentum in the technical cultures that built the Internet and the World Wide Web. Now it's breaking out into the commercial world, and that's changing all the rules. Are you ready?

The Open Source Definition

Introduction

Open source doesn't just mean access to the source code. The distribution terms of open-source software must comply with the following criteria:

1. Free Redistribution

The license shall not restrict any party from selling or giving away the software as a component of an aggregate software distribution containing programs from several different sources. The license shall not require a royalty or other fee for such sale.

2. Source Code

The program must include source code, and must allow distribution in source code as well as compiled form. Where some form of a product is not distributed with source code, there must be a well-publicized means of obtaining the source code for no more than a reasonable reproduction cost preferably, downloading via the Internet without charge. The source code must be the preferred form in which a programmer would modify the program. Deliberately obfuscated source code is not allowed. Intermediate forms such as the output of a preprocessor or translator are not allowed.

3. Derived Works

The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original software.

4. Integrity of The Author's Source Code

The license may restrict source-code from being distributed in modified form only if the license allows the distribution of "patch files" with the source code for the purpose of modifying the program at build time. The license must explicitly permit distribution of software built from modified source code. The license may require derived works to carry a different name or version number from the original software.

5. No Discrimination Against Persons or Groups

The license must not discriminate against any person or group of persons.

6. No Discrimination Against Fields of Endeavor

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, or from being used for genetic research.

7. Distribution of License

The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties.

8. License Must Not Be Specific to a Product

The rights attached to the program must not depend on the program's being part of a particular software distribution. If the program is extracted from that distribution and used or distributed within the terms of the program's license, all parties to whom the program is redistributed should have the same rights as those that are granted in conjunction with the original software distribution.

9. License Must Not Restrict Other Software

The license must not place restrictions on other software that is distributed along with the licensed software. For example, the license must not insist that all other programs distributed on the same medium must be open-source software.

10. License Must Be Technology-Neutral

No provision of the license may be predicated on any individual technology or style of interface.

What's the relationship between open source and Linux?

Linux is an open-source operating system, and to date the most dramatically successful open-source platform. Linux is very popular in education, Internet service applications, software development shops, and (increasingly) in small businesses. Several successful companies market Linux and Linux applications.

Linux isn't the whole open-source story, however. There are many other open-source operating systems and applications available, including Netscape's Navigator and Communicator client line of Web browsers, which have now lead through Mozilla to the latest FireFox .

There are many licences that fall within the open-source definition, including the GNU GPL, the BSD licence, the MIT licence, the Mozilla Licence, the Apache Licence, the IBM Public Licence, the Qt Licence and many more.

How is "open source" related to "free software"?

The Open Source Initiative is a marketing program for free software. It's a pitch for "free software" on solid pragmatic grounds rather than ideological tub-thumping. The winning substance has not changed, the losing attitude and symbolism have.

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Why "Free" Software is too Ambiguous

What Does "Free" Mean, Anyway?

Some software is called "free" because it costs no money to download or use but source code is not available. The license that covers Microsoft Internet Explorer is a good example.

Some software is called "free" because it (and the source code for it) has been placed in the "public domain", free from copyright restrictions.

A lot of software is called "free" even though the source code for it is covered by copyright and a license agreement. The license usually includes a disclaimer of reliability, and may contain additional restrictions.

The restrictions on non-public-domain "free" software range from mild to severe. Some licenses may prohibit (or require a fee for) commercial use or redistribution. Some licenses may prohibit distributing modified versions. Some licenses may contain "copyleft" restrictions requiring that the source code must always be made available, and that derived products must be released under the exact same license. Some licenses may discriminate against individuals or groups.

And Who Does It Mean It To?

Many different groups or people use different definitions of what constitutes "free software."

As a result, communication is hampered due to arguments over whether a particular piece of software is "free" or not. This is bad enough when the argument is between people who basically agree that source should be available, but it could get worse.

If the "free software" label were ever to catch on in the corporate world, it all would be all too easy to imagine Microsoft claiming Internet Explorer is "free software" because its cost is zero dollars. Would we really want that?

Why is Free Software not used more extensively in the Enterprise environment?

Why has Free Software in general, and Linux specifically, not been as widely used in the enterprise environment as the proponents of it expected?

Developers of proprietary software would have you believe that Linux is not suited to the corporate environment. But this is not true, the next section attempts to highlight why it is that Linux has not yet taken over from Microsoft, as the Operating System of choice for home and corporate users.

Linux and Free Software must be a marketer's nightmare, Linux is perceived to be an Operating System used only by highly technical people, who hardly ever leave their homes or offices. Worse, the people who develop Linux call themselves hackers, so how do you sell a product to companies when people think that only 'uber'-geeks can use it, and that they use it to break into bank accounts via the Internet? The truth of the matter is that home users and more importantly CEO's (Chief Executive Officer) and CTO's (Chief Technology Officers) have the perception that Linux is difficult to use and that it would not be possible to use it in their environment.

Unfortunately few technically minded people are also able to communicate their ideas to those people who have the power to make decisions that will affect the company.

Microsoft, arguably the most successful software company around today, has marketed their products to the Chief Executive Officers, Chief Technology Officers and Chief Financial Officers. Not to the people who would have use it, but rather the people who are able to make the financial decisions, and who may not necessarily have the full knowledge required to make a sound technical decision.

When deciding whether to use Linux in a business environment, one needs to make a distinction between an Operating System for a server, and an Operating System for a desktop.

When you examine how Microsoft has marketed their products and compare that to the way Linux as been marketed to the world, one begins to understand why Windows is the Operating System of choice, instead of Linux.

Traditionally Linux has been marketed to the business world, from the bottom up. Since it was only the technical people who knew about Linux, and how to use it, they were the people telling their bosses about how stable and cost-effective it is compared to the products offered by Sun, IBM or Microsoft.

There are Linux distributions like Red Hat Fedora, Debian, OpenSuSE and Gentoo that you can use completely free of charge, and there are distributions that require the user to purchase a license, for example Red Hat Enterprise and Novell/SuSE Linux Enterprise Server (SLES).

The main advantage of buying a license is that you get support from the company who has created the Linux Distribution, including regular security updates and bug fixes.
With the distributions that are free of charge, you depend on the community of users of that distribution for the security updates and bug fixes. Admittedly, this is a very enthusiastic community and these fixes are made available before most people know that they exist, but this is not a risk that many companies are willing to take. They would rather pay somebody for guaranteed service than depend on no-cost services.
Productivity

Free Software is renowned for its stability, which translates to better uptime (the time between rebooting the system). Many commercial web-hosting companies use Free Software to run their servers, and to deliver the pages to Internet users.

Whilst all Linux proponents would agree that it is very well suited to the server environment, some would say that when it comes to desktop systems, meant to be used as workstations, Linux may not yet be polished enough to replace Microsoft's products. Though, recent versions from SUSE and Red Hat are very close to being perfect for the desktop.

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For Linux to gain more acceptance in the Business world, it will need to be marketed in the correct way.

CEO's would need to be made aware of why Linux is a viable option to use in the business environment, which is what the next section attempts to highlight. I will not be able to turn you into a marketer , or a business person, but I will attempt to list the reasons why Linux should be used.

Cost

Surely this is one of the main draw cards that Linux has over its competitors. During the IT industry boom in the late 1990', Information Technology seemed to promise unbelievable growth in profits and productivity. After the .com bust in 2000 many companies have slashed their IT budgets drastically. IT just did not deliver what it promised.

Today, businesses want even more out of the IT infrastructure, but they are more cautious when it comes to spending. Unlike the products from companies like IBM and SUN, Linux can run on almost any hardware architecture, you can use Linux to run your file server using the normal Pentium/AMD architecture.

Of course it can run on other more obscure architectures, you can even run it on a Xbox gaming system. (Though that is not so strange once you know that the Xbox is just an IBM PC that is meant to be used for gaming exclusively.

What is impressive is that people are creating clustered computer systems from these 'hacked' Xboxes. They are using the Xbox, because it uses good-quality hardware, is relatively inexpensive and is very quiet.

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Security

Security is another reason why businesses would benefit from switching to Linux.

Every year millions of dollars are lost worldwide by damage caused by Trojans, worms and viruses that affect Microsoft products. These programs exploit features in Microsoft that (it seems) Microsoft is unwilling to fix, since it would mean that Microsoft loses some of its ease of use. In Linux a much stricter security policy is implemented than on Microsoft Windows. In Linux the root user needs to allow any and all programs that want to run on the system. This can only be done by the root user (the administrator of a Linux machine).

In Microsoft systems, programs are allowed to run without any input from the user. In other words a malicious program can install itself on a Microsoft system, and run itself without the user of that system even knowing about it.

A classic joke: "Heard about the Linux virus? It works on the honour system. First it asks you to please e-mail it to all your friends, then it asks you to please log back in as root so it can tell you how to trash your system."

Support

Now that IBM and Novell have thrown their weight behind Linux, one can no longer say that there isn't a major company who will make support available for Linux servers and workstations. Many businesses would rather pay a license fee and be sure that support for their IT infrastructure is just a phone call away.

This means that there is now a multi-billion dollar company offering support for Linux on an Enterprise level, from servers to workstations.

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