

# Open Source Technologies the Way to Future Innovations and Development in it Domain



## Commerce

**KEYWORDS :** Open Source, GNU, CDDL, and Open Source as revenue and growth accelerator.

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### ABSTRACT

*Open source technologies are developed by open source communities. Open Source means universal access with the help of "Free License" to a product design or blueprint and universal redistribution of that design or blueprint, including subsequent improvements to it by anyone.[1][2]. "Any system of innovation or production that relies on goal-oriented, loosely coordinated participants, who interact to create a product (or service) of economic value, which they make available to contributors and non-contributors alike".[3] There is a galaxy of open source technologies available .Currently IT industry have tools which are 60% open sourced[4]. The black Duck's "Future Of Open Source Survey" (OSS) an initiative by IT Organization ZFrog survey reported, 56 percent of corporations expect to contribute to more open source projects in 2014. The industrial giants such as Oracle, MySql((database software),IBM, Eclipse(Open Source java development platform), JBoss (application server), Scalix (Linux-based email and collaboration platform), RedHat (Linux distributor), and SugarCRM (sales force automation) Twitter, Netflix, Sony Ericsson ,Samsung ( Android apps A derivative of Linus),Novell and Google (Major internet giants) have accepted Open Source[5] as means to development the only exception is Microsoft. This paper looks in to history of open sourcing and examines various free software licenses, Advantages, Scope and Revenue generation from Open Source.*

### History of open sourcing.

Open sourcing has roots to internet. Advanced Research Projects Agency Network ARPANET first used a process called Request For Comments (RFC) to develop telecommunication network protocols. This collaborative process of the 1960s led to the birth of the Internet in 1969. At its outset earlier through internet IBM first released its source codes of operating systems. In the 1950s and 1960s, and the SHARE user group that formed to facilitate the exchange of software. As internet developed software were widely distributed by posts to computer's OS Linux on the Use-net, which is also where its development was discussed. Linux followed in this model. The term "open source" was adopted by a group of people in the free software movement at a strategy session[6] held at Palo Alto, California, in reaction to Netscape's January 1998 announcement of a source code release for Navigator browser .Netscape released its source code under the Netscape Public License and later under the Mozilla Public License. Starting in the beginning of the 2000s, a number of companies began to publish a small parts of their source code to claim they were open source, Today open source is contributing to new developments in computing such as "Cloud Computing" on internet. Google Analytics, Artificial intelligence, Neural Networks, Network Computing, Application development and a wide range of area which Open Source is dwelling in[6].

### Public free license for open Sourcing

Currently the majority of the open source software's and products from communities are available under a dual license consisting of the Common Development and Distribution License (CDDL) v1.0 and the GNU General Public License (GPL) v2

### GNU General Public License

The GNU General Public License (GNU GPL or GPL) is the most widely used free software license, which guarantees end users (individuals, organizations, companies) the freedoms to use, study, share (copy), and modifies the software. Software that allows these rights is called free software and, if the software is copylefted, then it also requires that this be retained. The GPL demands both. The license was originally written by Richard Stallman of the Free Software Foundation (FSF) for the GNU project. In 1997 survey of MetaLab (versatile laboratory for software application), showed that the GPL accounted for about half of the software licensed therein. Prominent free software programs licensed under the GPL include the Linux kernel and the GNU Compiler Collection (GCC). In 29 June 2007, the third version of the license (GNU GPLv3) was released.

Common Development and Distribution License (CDDL) is a free software license, produced by Sun Microsystems, based on the Mozilla Public License (MPL), version 1.1. Files licensed under the CDDL can be combined with files licensed under other licenses, whether open source or proprietary. The Free Software Foundation considers it a free software license that is incompatible with the GNU General Public License (GPL). The incompatibility arises from a complex in-

teraction of several clauses that the CDDL inherited from the MPL. The CDDL was submitted for approval to the Open Source Initiative on December 1, 2004 and was approved as an open source license in mid January 2005. The CDDL is one of nine preferred licenses listed as popular, widely used, or with strong communities.

### How is the growth of open Source (Analysis and Results)?

Commercially, the significance and growth of open source is measured in terms of revenue generated from it. Future of open source 8<sup>th</sup> survey data

Domain main streams for Open Source	% contribution overall earnings(performance)
Coud/Virtualization	63%
Content Management	57%
Mobile	53%
Security	51%
Collaboration	49%
Network Management	48%
Social Media	46%
American Drones military Aircraft	13%
Gaming	12%
Enterprise Resource planning(ERP)	10%
Home Appliances	45%
Automobile	29%
Robotics	31%
Monetary Exchange/Payment on Internet	21%
Entertainment	31%
Education	62%

**Figure 1: Open Source major domain and contribution.**

### Ways Companies Can Use Open Source to Grow Revenue

1. Sell services to government agencies that collaborate with the company to contribute code to an open source project.
2. Sell more of a product that depends on open source.

For example, the core business of Nokia is to develop and sell cell phones. Nokia recently acquired the Symbian cellular phone operating system and promptly released it as open source. By allowing the open source community to improve the operating system, Nokia increases the value of its cell phone. leading to more sales revenue.

3. Sell proprietary products built on top of an open source platform and capture the brand value that results from leading the development of the platform.

The Sun Microsystem's (now Oracle) Java platform is an example of such an approach to growth. The Java brand enjoys high recognition and is associated with a broad range of products and services, from desktop applications, to web services, to cell phone games.

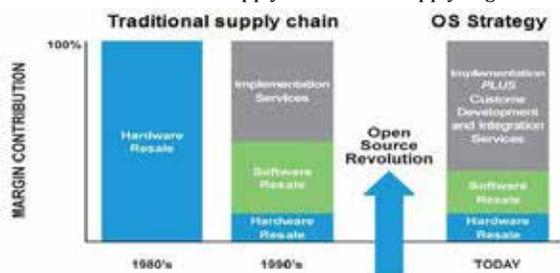
- Sell more products by adapting language, interface, and features to different geographies and linguistic environments.

**Figure 1, from Mozilla's Q1 2010 Analyst Report on the State of the Internet, shows the international usage statistics for Mozilla Firefox, highlighting the success of its localization efforts.**

Users of Mozilla Firefox browser (in millions)	% of users	Geographical area
100	26	North America
152.7	39.2	Europe
68.7	26.6	Asia
31.7	31.4	South America
5.6	29.7	Africa
6.7	28.7	Oceania

**Figure 2: Firefox Worldwide Market Share**

- Sell new products and services in one place of the supply chain while concurrently introducing open source software in another place of the supply chain. SugarCRM. By moving the focus towards value added services in the CRM supply chain, SugarCRM positioned itself as the leader in customization services, its core business, extracting the lion's share of revenue from the supply chain. CRM Supply SugarCRM



- Open source a legacy product that is no longer generating sales.
- Open source a transactional product.

Linden Labs generates most of its revenue from services such as item sales and land transactions within the virtual world, so releasing programs used to access its services leads to an increase in their revenue potential. The revenue increase of user-to-user transactions of over 65% year/year

**Advantages of Open Source.**

**1. Lesser hardware costs**

Open Source software's requires less memory. With this less hardware power advantage, you can even use cheaper or older hardware and still get the desired results.

**2. High-quality software**

Open source software is mostly high-quality software. These reasons make open source software an ideal choice for organizations.

**3. No vendor lock-in**

IT managers in organizations face constant frustration when dealing with vendor lock-ins'. Lack of portability, expensive license fees and inability to customize software are some of the other disadvantages. Using open source software gives you more freedom and you can effectively address all these disadvantages.

**4. Integrated management**

By using open source software, you can benefit from integrated management. Open source software uses technologies, such as, common information model (CIM) and web based enterprise management (WBEM). These high-end technologies enable you to integrate and combine server, application, service and workstation management.

**5. Simple license management and lower software costs.**

When you use open source software, you would no longer need to worry about licenses. Open source software enables you to install it several times and also use it from any location. You will be free from monitoring, tracking or counting license compliance. No more license, maintenance fees.

**6. Abundant support**

You will get ample support and online help when you use open source software. Options for clustering, load balancing and open source applications, such as email and database, enable your organization to either scale up and achieve more with less.

**Limitations to open source solutions.**

- The main limitation of open-source software is not being straightforward to use. As always there are ways with open source but you have to be updated in terms of hardware and knowledge.
- There is a shortage of applications that run both on open source and proprietary software; therefore, switching to an open-source platform involves a compatibility analysis of all the other software used that run on proprietary platforms.
- In addition, there are many ongoing parallel developments on open source software. This creates confusion on what functionalities are present in which versions.
- Lastly, many of the latest hardware are incompatible to the open-source platform; so you have to rely on third-party drivers.

The decision of adopting open-source software should not be taken just on the basis of the low-cost involved. It entails a detailed analysis and understanding of the requirements before switching to open source to get full benefits of it.

**Conclusion.**

Open source technologies have received much attention in current IT developments and today the major industrial giants are experiencing benefits of open source. The open source approach is developing more tech-savvy communities and changing the way we business in last few years from 2007-2014 open source have shown its major impact and today developers are experiencing a more effective needs to be updated and different ways of development. On revenue side also the exploiters of Open Source can surely gain but the open source approach need expertise and a new way of earning and using technologies. The open source technologies are the subject of concerned community and software developers who are concerned with innovation and cause of Software evolutions. Open source seems a Global development and is much due to Internet evolution and more internationalized now with support for different languages.

**REFERENCE**

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