

Studying the open source software

[Science](#), [Computer Science](#)



“ Open Source Software is primarily defined as software which is freely redistributable and includes the source code” (Varner, 1999). Open-source software may be seen as the opposite of proprietary software in which the end product is binary only. The idea of open source is not a new one. “ The progress of science over half a millennium has been founded upon the notion of “ open source”–a model in which the brightest minds contribute their work to the community for the betterment of humankind. Scientists across all major disciplines publish their insights in the public domain, climbing upon the shoulders of others and enabling others to climb upon theirs” (Firmage, 2003). The beginnings of open-source software began in the 1950-1960 time frames when software, along with its source code, was distributed through forums such as the IBM SHARE or the DEC DECUS. The idea began to populate more rapidly though, with the rise of Linux, beginning in 1991 (Gonzalez-Barahona, 2000). Today, the use of open-source software is widespread. In fact, much of the Internet relies on open-source software. Two such examples are Apache, which currently runs 64% of surveyed Internet websites (Netcraft, 2003) and BIND, which in 2000 was estimated to providing 95% of all reverse DNS lookups (Wheeler, 2003). Given this background into the idea of open source and its related software, this paper intends to highlight some of the advantages to developing open source software and the advantages for a business to consider using it.

As a software developer, there are some advantages to developing software in an open source format as opposed to a proprietary, closed source format. First, the ability to view, modify and contribute to currently available open source software is a major advantage. “ It enables the unlimited tuning and

improvement of a software product. It also makes it possible to port the code to new hardware, to adapt it to changing conditions, and to reach a detailed understanding of how the system works” (Gonzalez-Barahona, 2000).

Secondly, the ability for source code being developed to be audited for bugs, security holes, and inefficiencies by anyone with access to the code may also be seen as a major advantage. The idea of “ two heads being better than one” certainly applies here. A third advantage, one that ties into software being audited, is the constant public scrutiny of proposed changes to the software. With so many different points of view and perspectives, creative changes and additions to the software may be discussed before being put into place. Lastly, as a developer of open source software, authors retain their copyright. This gives developers the freedom of deciding how the software may or may not be used (Szakal, 2003).

Businesses, likewise, have several reasons to consider using open source software. “ The foundation of the business case for open-source is high reliability. Open-source software is peer-reviewed software; it is more reliable than closed, proprietary software. Mature open-source code is as bulletproof as software ever gets” (OSI, 2003). The idea is a simple one software that has been developed that can be scrutinized, audited, and contributed by many different people, will become more and more reliable over time. Additionally, using open-source software does not require licensing fees or royalties. This makes keeping track of licensing issues a virtual non-issue (Szakal, 2003). Security is another bullet-point that open-source software claims as an advantage. “ The publication of source code actually improves security because the program or operating system can be

peer-reviewed by anyone who cares to read it. Many security bugs that are overlooked in other operating systems have been caught and repaired in Linux, because of its extensive peer-review process” (Perens, 2003). Finally, the advantage of cost is a major reason business may gain from open-source software. How can a business go wrong when looking at free software to help run the business? There are a multitude of great examples of software that currently exist that businesses may (and are) using. For example, Apache is the most widely deployed web server software is open source. Linux, an open-source operating system, may be used as a desktop, server, or embedded device (Robinson, 2003). The OpenOffice suite, another free open-source software package, can interface with all of the Microsoft Office products, has XML support and can export documents as PDF files.

To summarize, open-source software has many great benefits, both for a software developer and for a business. Developers have the advantage of world-wide collaboration with other developers to help audit their software and ensure that the best ideas make it into future versions. Businesses may leverage open-source software a cost-efficient, license free and reliable way to solve business needs whether it be on the desktop or a server.