The Open Source Revolution and the role of IT Service companies

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What's common between Facebook, Google's Nexus One phone and the new A-Team movie? The answer, all of them were built or created using Open Source technologies. While not immediately apparent to the casual observer, Open Source solutions are fast becoming pervasive in our daily lives. An increasing number of products and services ranging from wireless routers, to the New York Stock Exchange, to the Large Hadron Collider particle accelerator are powered by Open Source. This article was written on a computer running the Linux Operating System – the best known example of Open Source Software. Further, Open Source development methodologies have transcended software development and are today being used in areas as diverse as electronics design and pharmaceutical research. This article will look at trends driving the adoption of Open Source Software and attempt to analyze its implications for IT Service companies.

What is Open Source Software?

Contrary to common perception, Open Source Software (OSS) is not the same as free software. While Open Source software tends to be freely available for use, simply releasing software free of cost does not make it Open Source. To be considered as such, it is necessary that the '*source code*' of the software also be made available to users. The source code of a software comprises the instructions and building blocks which go into the creation of the software – analogous to the blueprints of a house. Further, the software must be released under a legal license that permits users to examine and change the software, and to use it in their own applications without any additional licensing costs. Some open source licenses have even more stringent requirements and insist that any applications that utilize Open Source components directly must themselves be released as Open Source.

Open Source evangelists like to explain the difference between free software and OSS as the difference between 'Free Beer' and 'Free Speech'. This means that a software like the Skype chat client, while available free of cost, cannot be considered Open Source. However, the Linux Operating System is freely available along with its source code which can be further modified without any restrictions. Linux is thus an example of Open Source Software.

The Rise and Rise of OSS

While the idea of OSS has existed in some form or the other since the early 1980's, its increase in popularity coincided with the rise in Internet penetration across the world. The Internet allows large groups of geographically dispersed enthusiasts to collaborate and build software, which often performs at par or better than similar commercial offerings. Since a significant number of contributors to most OSS projects are unpaid volunteers, the model works well for building complex and expensive software projects, like computer operating systems or databases, which could otherwise only be built by the largest of commercial vendors. A 2004 analysis of the Debian variant of the Linux Operating System concluded that “using traditional proprietary methods....[the] cost would be close to $6.1 billion USD to develop Debian.”[1] OSS has democratized the software development process and poses a significant threat to commercial software developers. The Open Source Apache web server is estimated to power close to 55% of the web sites on the Internet, compared to the 25% which run on its largest commercial counterpart. [2] Similarly Linux accounted for about 20% of new server shipments in the first quarter of 2010. [3]

Why customers like OSS

The growing popularity of OSS solutions like Linux among enterprises can be explained by a number

of factors. A big benefit of adopting OSS is its relative stability and reputation for security as compared to many commercial offerings. Since the source code is freely available, fixes for critical bugs appear in a matter of hours or days, as compared to weeks or months for commercial vendors. Further, some OSS projects place additional emphasis on security and any new source code passes through stringent reviews before it is added to the project. An example of this approach is the OpenBSD Operating System, introduced in 1995, which claims to have only had two major security bugs "in a heck of a long time."[4]

Since OSS is freely available, it also helps organizations reduce their IT costs by doing away with the annual licensing fees associated with commercial offerings. A number of organizations like RedHat and Novell also provide service contracts which guarantee reliable customer support and bug fixes on the lines of the service contracts offered by proprietary vendors. The cost of these services is significantly lower than their commercial counterparts. For example, a server license of Red Hat Enterprise Linux with a one year basic subscription costs around $350 while a comparative Windows Server 2008 license would set an organization back by more than $1000, while simultaneously enforcing limits on the number of concurrent clients which can access the server[5]. For a mid-size or large organization with hundreds of servers serving thousands of users, this cost difference quickly works out to be a significant sum. Proprietary products also suffer from vendor lock-in which makes migrating to a competitor's products difficult, if not impossible, for most enterprises. Over-reliance on proprietary solutions can cause enterprises to find themselves stuck in a vicious cycle of forced upgrades, ever increasing license fees and dependence on third party vendors. These problems are often a major motivator for organizations which migrate to using open solutions.

IT Service companies and Open Source

With more and more enterprises starting to evaluate and implement open source solutions across all levels of their IT infrastructure, service companies which recognize and successfully adapt to this trend have an opportunity to reap significant benefits. As OSS gains traction and acceptance, several companies which decide to adopt it would not necessarily have sufficient in house experience to make a successful transition. IT service companies which acquire the requisite skills in this area will be in an enviable position to tap into this demand and grow.

Some areas where IT Service companies would be able to assist customers include:

1) Consultancy engagements for planning and implementing migration strategies from proprietary to open solutions
2) Porting in house applications and systems to allow them to run on Open Systems.
3) Enhancing the quality of existing Open Source applications and selling them.
4) Working with in house IT departments and end users to meet their staffing and training requirements.
5) Providing technical support to companies which have implemented OSS solutions. Working with enterprises to enhance OSS solutions to meet their custom requirements.
6) Providing software development houses which use OSS in their products with code auditing solutions.

While the first five points are self-explanatory, the last one on the list bears some explanation. As mentioned earlier, some Open Source software licenses are stricter than others. For example, the GNU Public License (GPL) insists that any third party software that directly uses code released under the GPL should also release its source code to the public. This may not be desirable for vendors who release proprietary solutions. In order to avoid this problem, special care needs to be taken during the software design and packaging process to avoid GPL code 'leaking' into the application source code. While larger organizations have dedicated compliance departments to guard against this problem, smaller shops could utilize third party vendors for this purpose.

How can IT service companies prepare for OSS?

OSS is likely to be a disruptive change for most IT service companies which are accustomed to working closely with vendors of proprietary solutions and assisting clients with implementing them. On the brighter side, increased adoption of OSS solutions will increase operating margins for IT service companies since their revenues would not need to be shared with software vendors. The first task for service providers would be to build internal competence and skills in OSS. There is currently a paucity of Open Source talent in India because of a lack of awareness in academia. IT service companies, being large employers of IT talent in the sub-continent, could potentially work with colleges to revise their curricula to focus on OSS technologies to a larger extent, thus creating a pool of talent they can tap into.

Simultaneously, service companies need to foster a greater awareness of FOSS amongst their client base. While most technology and IT enterprises are at least acquainted with Open Source, awareness remains low among the non-IT sector. This is where future growth is likely to happen. While large enterprises may not notice the effect of software licensing fees on their bottom line, smaller organizations may be more interested in learning about ways to lower these costs. While it is unrealistic to expect any organization, large or small, to switch to using OSS overnight, an incremental approach, would have more success. Such an approach could involve encouraging companies to migrate their lower priority or internal services first and gradually move on to tackling more business critical sub-systems. By pricing their services appropriately, service companies could encourage companies to consider these transitions and rapidly make quick inroads in this market, with complementary increases in their profitability.

Conclusion

There is no doubt that Open Source has come of age, with technology companies like IBM, Oracle and even Microsoft paying more attention to it and actively contributing to the growth and enhancement of various projects. The next phase in the Open Source revolution will involve increasing its reach and penetration among enterprises across all industrial sectors. IT service companies which can recognize and adapt to these opportunities in time will reap rich benefits.

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