Open Source Software and The Enterprise

Gain in more ways than one

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Table of Contents

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Open-source operating systems power hundreds of thousands of servers, PCs, smartphones, and other devices. A large number of software packages carry open-source licenses. Convinced of the merits the model has to offer, a wide range of businesses and organizations now utilize open-source software, sometimes even for mission-critical projects. With open source becoming an important tool, the number of projects on open source is surely set to increase in exponentially in the years to come.

The Current Scenario

Today, stock exchanges in New York, London and Tokyo run on trading platforms based on Linux, an open source operating system. The trend of making software available in source code form that was set in the 1980s with projects like BSD Unix, the X window system and GNU, has significantly evolved. What with the advent of the Internet, open-source software has become truly ubiquitous.

A simple visit to a website involves the use of several kinds of open-source software. The DNS server, the web proxy cache, the web server, the server side scripting language and even the browser used are likely to be open-source. Open-source operating systems power hundreds of thousands of servers, PCs, smartphones, and other devices. A large number of software packages carry open-source licenses.

Convinced of the merits the model has to offer, a wide range of businesses and organizations now utilize open-source software, sometimes even for mission-critical projects. CERN uses Active MQ, an open source message broker, to move data between thousands of machines. NASA distributes its software code open-source under the NASA Open Source Agreement to enhance its software quality. Also, leading equities exchange group NYSE Euronext uses Red Hat's JBoss Enterprise Middleware, while the US Federal Aviation Administration (FAA) makes use of the open source integration platform Fuse ESB.

According to The Future of Open Source survey[1] conducted in 2013, more than 1 million open source projects are now underway. With open source becoming an important tool, this number is surely set to increase in exponentially in the years to come.

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[1] http://www.slideshare.net/blackducksoftware/the-2013-future-of-open-source-survey-results

Why Open Source?

The economic uncertainty prevailing in the last few years has contributed to the increase in deployment of open-source software. The financial crisis had businesses staring at slashed budgets. Strapped for funds, many companies began to consider open-source software as an option as it offered a better economic model. As budgets continue to get slashed without notice, more and more enterprises are leaning towards open-source software, as there is no upfront license payment to be made.

Also, as increasing number of business organizations take to the cloud, vendor lock-in at legacy data centers is posing to be a problem. Open-source software which aligns well with cloud solutions is therefore very much in demand. The survey1 mentioned earlier found that freedom from vendor lock-in was the second main reason for companies to prefer open-source software solutions.

How It Works

First of all, software is called open source only if the source code is freely available without any restrictions. The users should be free to make changes, fix bugs, port it to other systems, and so on. The word 'free' in this context is related to liberty, and not price. It has been rightly said that open source is *"'free as in 'free speech', not as in 'free beer'."*[2]

The key player in the open-source software ecosystem is of course, the open source community. The community consists of developers that ideate, analyze, design, implement and test the software. From an enterprise perspective, product support vendors who provide commercial support for open source products are also important. They comprise mostly of contributors to the open-source product. The product support vendors bring in a business angle by providing dedicated support, product patches, detailed documentation, comprehensive testing and consulting services.

Then there are software service providers who with their domain knowledge, project experience and scale can help enterprises create solutions using open source. For instance, a service provider can assist an organization in implementing a life insurance quoting solution using open source software.

Advantage Enterprise

With open-source software, businesses stand to gain in more ways than one. While the software is not necessarily free of cost, there is no capex or acquisition cost involved. The organization incurs only operating expenditure in the form of consulting and support costs. Enterprises with strong technical teams can save on these overheads as well. Most PHP-based websites follow this model. In addition, many open-source support vendors follow an elastic support pricing model akin to the one used for cloud solutions. Take the case of a cloud support vendor who charges

1. $5000 for supporting software deployed on 1 to 10 CPUs and

2. $10,000 for supporting software deployed on 11 to 20 CPUs.

A business that currently deploys open source software on 10 CPUs has an expandable capacity of 10, beyond which they will have to purchase additional support. Such a pricing structure enables the business to leverage the elasticity of the cloud, yet have predictable support costs. Businesses using open-source software benefit in a similar manner. Also, unlike closed-source software, open source gives the business the option of choosing from multiple vendors for supporting the same product, forcing product support vendors to price competitively.

Further, all open source is liberated, in the sense it is not owned by anyone, and hence free to be modified and worked upon by just anybody. This provides a great deal of flexibility as enterprises can customize according to requirements. Open-source software also allows for interoperability, enabling business users to integrate products from different vendors. For example, an organization that wants to integrate two open source products like an ESB and a distributed cache can do so without fretting over whether such an action will be in contravention of
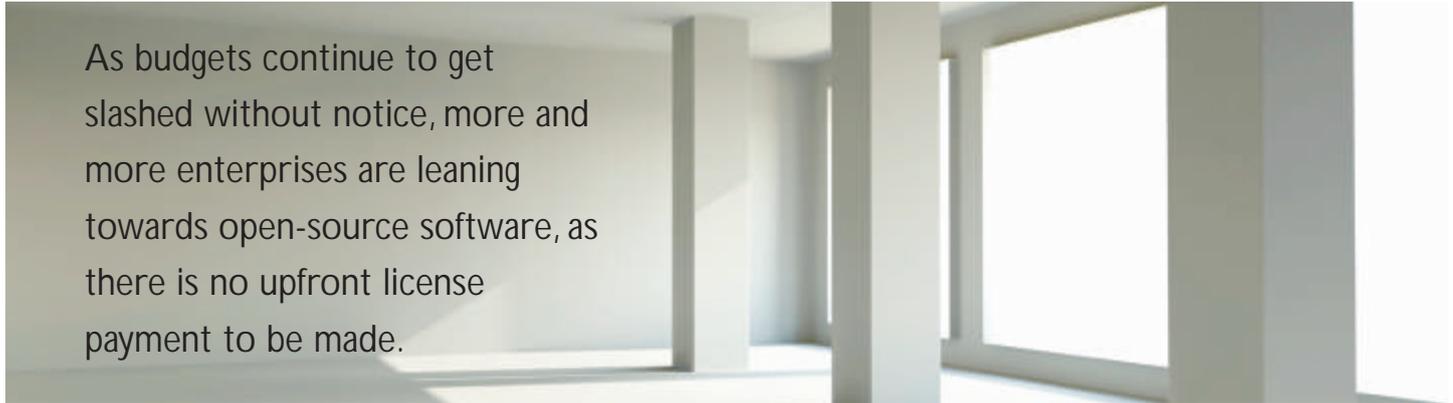
As budgets continue to get slashed without notice, more and more enterprises are leaning towards open-source software, as there is no upfront license payment to be made.

the product support contract.

Moreover, a large number of highly capable developers and users contribute ideas, further enriching the software. That is the reason why newer technologies are often incubated and matured in open-source products, before they become closed-source products.

Impediments on the Open Source Path

Inexpensive it may be, but open-source software is not without its share of challenges. Finding suitable support used to be an issue, but the market is now teeming with players who provide this service.

A more real risk today is that of intellectual property. Software licenses can be tricky. Enterprises need to select software with the right license and create a governance team whose responsibilities include creating an open source usage policy, disseminating its guidelines, implementing the policy and monitoring usage. This calls for a clear understanding of the complex rules of open-source software licensing, which enterprises often lack.

Support vendors, being well-versed in the domain, can advise organizations on the appropriate form of open-source usage. Enterprises can also avail of the indemnity coverage offered by the vendors. In addition, businesses moving to open source might have to absorb transitioning costs and resolve complicated integration issues.

Another challenge that business organizations planning to adopt open-source software often face is resistance from their own teams. Members might have various concerns which organizations should identify and address. The IT staff that is currently using well known commercial products may have reservations about switching to open source as they fear that it will affect their career prospects.

One more reason could be fear of the unknown, which can be remedied by providing training. This will however involve a cost. As team members familiarize themselves with the tools and features of open source software, the resistance will surely melt away; learning will bring out new ideas and motivate them to delve deeper into the subject.

More Power to Open Source

The proliferation of open-source software in the business world is a clear indication of its popularity. Business organizations are very comfortable working with Linux and have reaped the benefits of using open source. Android is a Linux-based operating system, for which Google releases the code under the Apache License. The software can be freely modified and distributed by device manufacturers, wireless carriers and developers.

Meanwhile, the ESB integration space which has some large open-source players has had a string of successful products, and is seeing a flurry of acquisition activity. Open-source web servers such as the Apache web server and Tomcat are also widely used. The Apache web server is considered the most popular web server, while Tomcat is mostly used to serve dynamic web pages.

Furthermore, in development environments, a lot of open-source tools are used for compiling, building, testing, code checking and packaging. Hadoop, a tool that processes huge volumes of data across thousands of computer servers has revolutionized business software and the web. Then there is the open-source data analytics cluster called Spark that offers superior performance.

In the CRM marketplace, there is a lot of demand for open-source CRM. Not only is it less expensive, it also enables businesses to formulate CRM strategies based on their specific needs. Vendors like SugarCRM are including open source concepts in commercial offerings.

A majority of the respondents of The Future of Open Source survey think that over 50% of software will be open-source five years from now. According to Gartner, open source will be part of mission-critical software portfolios in 99% of Global 2000 enterprises by 2016.[3] As cloud computing and big data become increasingly pervasive, more businesses will surely turn to open-source software.

> Unlike closed-source software, open source gives the business the option of choosing from multiple vendors for supporting the same product, forcing product support vendors to price competitively.

[3] http://www.blackducksoftware.com/adapting-it-governance-frameworks-ensure-control-and-visibility-open-source
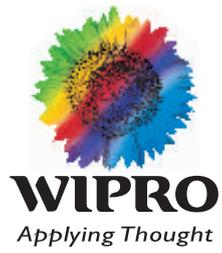
About the Author

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