
Understand your open source software options

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Many public and private organizations around the country of all sizes might be missing out on the benefits of open source software (OSS) because they simply don't understand how it could benefit their enterprise. Chief information officers (CIO) and IT departments that do see the benefits of exploring OSS are often put off by the ongoing debates about risk, licensing, support and maturity of open source. And, those organizations that do explore OSS, often employ a misguided one-size-fits-all approach to evaluation, selection, utilization and management within the company.

This type of thinking about OSS is causing many IT organizations to miss out on the ongoing practical value that can be realized from using what is now a vast and diverse toolkit of useful software components.

What is open source software?

In order to understand what OSS software is, it's best to discuss two OS in two separate contexts. The open source movement (which your IT staff might be involved in), and open source as a type of software license.

Open source is seen as a movement among software developers. Since the 1960's, individuals from around the world have organized themselves to develop and use free software in real project environments. In the last ten years, this movement has evolved into a sophisticated system used by both private and public organizations.

In general, open source refers to any program whose source code is made available for use or modification as users or other developers see fit. Historically, the makers of proprietary software have generally not made source code available. OSS is usually developed as a public collaboration and made freely available. The OSS license tends to favour the end users of the software, as opposed to a propriety license, which favours the software vendor.

During software development, a number of OSS development tools can be used to speed up and improve the process of designing, authoring, building and unit testing business applications. These tools are created for developers by developers, and they are often the best in their class. Interestingly, commercial alternatives to several of the tools that augment development best-practice don't even exist.

Tracking and understanding the relevance of each and every new OSS development would be extremely time-consuming and unproductive. Instead, commercial IT organizations need a way to consider the options from the point of view of their enterprise requirements.

Know the benefits

Many IT managers start out wanting to use open source software because it reduces development effort and costs, thereby saving the business money. However, after practical implementation, they soon realize there are several other benefits that are perhaps more significant and lasting.

In fact, the majority of OSS is actually aimed at speeding up enterprise software development, simplifying system management and maintenance, and improving software quality. Enterprises that learn to think about OSS as a solution to their holistic enterprise development needs will find several opportunities to improve the efficiency of their business and IT organisations, and lower the cost of building and operating enterprise systems.

It's easy to procure. There is no doubt that OSS can dramatically lower the total cost of ownership of enterprise systems, but one of the greatest benefits of using free software is often overlooked: OSS eliminates the pressure to make big decisions up front about what is needed before it is needed. Enterprise development teams often needlessly force-fit expensive commercial products into their solutions simply to validate prior overzealous procurement of licenses. If they start with OSS, developers can get right to the work of building business applications, and incorporate third-party components (proprietary or open source) only as they are called for by specific business requirements. Unlike commercial products, they will never be locked into a contract to use OSS, only to find that it is not required or not suitable.

It's fit for purpose. OSS that is not easy to install, use and manage does not survive. Since open source code is scrutinised by thousands of developers worldwide, OSS developers are forced to keep their software as straightforward and lean as possible. They must limit their feature set to what is required right now and add features as their users request them. Unnecessarily complicated and bloated products with large footprints, such as most commercial application servers, are uncommon and short-lived in open source software.

In practice, the small footprint of OSS application servers and databases also means that they're faster, cheaper, and easier to use during development than the commercial alternatives. By using OSS with open standards such as Java, J2EE, HTTP, XML, and SQL, each developer can host an entire application infrastructure on their workstation: web server, application server, and database, regardless of whether the finished product will be deployed onto OSS or commercial products. This not only saves on development licenses, but also reduces dependencies among team members and allows developers immediate feedback on whether or not their code works, which drastically speeds up development.

It's easy to change. Using OSS increases the options and the amount of control that can be exercised when developing, enhancing, evolving, and retiring enterprise systems. Open access to source code means that a software developer can always enhance, fix, or otherwise alter any open source component at any time.

In addition, the strong pride of authorship and community behind most OSS projects means that if something doesn't work, there will usually be at least one insider who is keen to help and ultimately ensure successful use of their software. Often, defect and issue resolution in OSS is more precise and takes far less effort than it does with commercial software, because the users have direct access to the bug database and the authors – there is no corporate support hierarchy separating the user from the solution.

It's high quality. The methods used to develop OSS naturally favour the production of software that is higher quality than most other software, bespoke or commercial. Each OSS project is run like a small and efficient software business. The software is generally developed in cycles, each of which plans to release a new stable production version to the majority of users, who require predictability and reliability.

But what makes the open source development model uniquely better is actually what happens between production releases, where several smaller software changes are released to add new features and fix bugs. These developer-only releases are downloaded and used by tens, hundreds, and often thousands of software developers worldwide, effectively creating a global, distributed quality assurance team for each project. This “release early, release often” strategy finds defects early, which makes them easier to fix and improves the quality of the production release. Also, since the defect resolution process moves at such a rapid pace, the users develop very high expectations – project teams must provide timely fixes or their software will soon die out.

While some few OSS lacks features relative to their proprietary counterparts, this should not be considered indicative of software quality. Where concrete requirements exist for the features in the gap, they will eventually be added – with better methods and clear success criteria. Most open source development teams openly publish the road map for their projects and any user can request enhancements. It's only a matter of time; the feature gaps will close and commodity commercial software will give way to the higher quality open source alternatives.

Employees like it. The people factor shouldn't be discounted. Working with new, cutting edge software might help attract, retain and motivate internal IT professionals, leading to greater productivity over time.

Gaining the OSS advantage

Open source software is here to stay. A properly implemented approach that addresses application ownership and copyright issues will help drive productivity, reduce risk and save money.

There are hundreds of tools and middleware in the OSS toolkit that are ready for primetime use in the enterprise IT environment. Depending upon specific requirements, OSS can be used to create a complete enterprise solution, or mixed and matched to complement commercial software. In either case, there is no reason to wait.

OSS is already an essential part of providing the fastest and most efficient enterprise solutions, and this trend will continue well into the future. Companies that take time today to select, evaluate and apply OSS to their specific requirements will realize widespread benefits that are immediate, ongoing and lasting.

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