



THE PERFECT STORM

WHY NOW IS THE TIME FOR OPEN SOURCE

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EXECUTIVE SUMMARY

These are unprecedented times. The global economy is in free fall, with no geographic region or industry unaffected by the scarcity of capital, market volatility, and reduced consumer spending. Dismal economic indicators reflect business conditions that haven't been seen for decades. And experts are warning that we haven't yet hit bottom.

At the same time, IT is under more pressure than ever. There is less capital to invest in new systems at the very moment when companies need to leverage technology to innovate – both to contain costs and to hone competitive advantage. IT managers are being told to lay off personnel and reduce operating expenses, yet are expected to continue providing the same support to business users as when fully staffed.

But there's a bright spot amidst the general gloom. Specifically, the value proposition of low-cost, high-return open source solutions is resonating now more than ever. Although used successfully by leading-edge companies for more than 20 years, some mainstream businesses have remained with their proprietary technology alternatives, either due to vendor lock-in or misconceptions about open source. That is rapidly changing. Today, open source is being increasingly recognized for its ease of use, high performance, and affordability, especially amidst today's turbulent economic conditions.

Indeed, the high value of open source, coupled with economic and organizational pressure, represents a "perfect storm" for CIOs, giving them the opportunity to deploy high-performing, cost-effective open source solutions to carve costs out of their IT infrastructures.

CONDITIONS FOR THE PERFECT STORM

The phrase "perfect storm" comes from the best-selling 1997 book by Sebastian Junger. It has since been used to refer to times when a particular combination of events cumulate in an utterly unique situation – one in which the whole is significantly greater than the sum of the parts that created it. The IT world is facing such a situation now.

First, there is the economy. Every day brings further news of massive layoffs, bankruptcies, and reduced consumer confidence. No industry is exempt.

Second, there are the demands being placed on IT. Technology is more critical than ever for enabling businesses to function efficiently and innovate for competitive advantage. Yet IT budgets are being slashed to the bone. Given that businesses currently spend 80% of their IT budgets just to keep the business going, according to Forrester Research – and that 30% of that budget goes straight into paying the salaries of employees performing routine maintenance – few businesses have the capital to invest in new hardware or software.



But the news isn't all bad. The third contributing factor to the current perfect storm actually points the way to a solution: open source. In the past considered immature, today's open source software is reliable, stable, and mature enough to be used to build mission-critical systems at even the most conservative mainstream enterprises. According to a survey of IT and business managers performed in 2008 by CIO.com, 53% of businesses are already using open source, and another 10% plan to deploy open source within the next 12 months. Even more significantly, 44% of all respondents said they compare open source applications head-to-head with proprietary solutions during product evaluations.

The emergence of open source has created an unprecedented opportunity. If the IT world were merely suffering conventional economic woes, enterprises would be well advised to do conventional cost cutting to ensure survival. But open source does much more than simply allow businesses to reduce operating expenses and capital expenditures. It enables them to seize strategic advantage that will carry them past the current economic conditions and position them for success in the long term.

THE OPEN SOURCE VALUE PROPOSITION

Community-based software development efforts date back to the 1960s. In those early initiatives, just like today, interested individuals and organizations contributed time and resources to developing technologies that were then made available at no cost to the community as "freeware." In 1998, wanting to avoid the connotations of the word "free," Netscape released the code for its Navigator web browser under the umbrella term "open source." After much internal debate, the freeware community agreed to adopt the new nomenclature. The Open Source Initiative (OSI) was founded shortly thereafter.

Open source is an innovative, community-enabled model for creating high-quality software based on widely accepted industry standards. Licensed under the General Public License (GPL), open source solutions give customers the flexibility to freely use software without fear of vendor lock-in, since one of the most important conventions of open source is that any person or organization that releases code into the market under that designation places no restrictions on its use.

Increasingly, commercial vendors have built for-profit businesses around open-source products. One common model is to charge for enterprise-class support of the free software. This is especially attractive to businesses users, who don't want to depend on community forums or bulletin boards for help with mission-critical applications. Some commercial open-source companies offer specialized "enterprise" versions of the core products, which provide significantly enhanced functionality, proprietary support packages, and management tools in addition to the source code. Another business model involves giving away the software but selling the underlying hardware.



There are four key reasons that open source is increasingly attractive when compared to commercial proprietary software:

- **Value.** In virtually all cases, open source products are significantly less expensive than proprietary ones. Because development costs are shared by a wide community of interested parties, they are lower than if a single company were going it alone. Even those open source vendors that offer value-added commercial products are reaping the benefits of the core innovations being contributed by others. This allows commercial open source vendors to charge much less than proprietary vendors for similar or even advanced functionality. More than 56% of all enterprise users surveyed in a recent Forrester Report (“Open Source Paves the Way for the Next Generation of Enterprise IT”) said cost reduction was their primary motivation for using open source, and 87% of them said their cost-saving expectations had been “met or exceeded.”
- **Innovation.** The large number of parties working simultaneously to develop functionality also keeps open source on the leading edge of technology. Open source products are thus frequently the first to market with innovative new features and capabilities. For example, the Firefox browser has routinely set the gold standard for security with each new release. The increasingly ubiquitous open source company Zimbra took the functionality provided by Microsoft’s Exchange server and considerably enhanced those capabilities.
- **Quality.** Because the large open source community works together to test, debug, and support products, the quality tends to be higher than proprietary products. Upgrades, patches, and bug fixes are also released faster. A vast majority of respondents to the Forrester survey – more than 92% – said their quality expectations have been “met or exceeded.”
- **Choice.** One of the key tenets of open source software is that it is built using standard technologies, and different versions of an open source product can easily be swapped with one another. This allows businesses to avoid vendor lock-in. Given the rapid consolidation of the software industry, this is a major selling point for many businesses; according to Forrester, this vendor independence is “very important” for 43% of all enterprise open source users.

CARVING OUT COSTS: HOW OPEN SOURCE SAVES BUSINESSES MONEY

The number one reason that most businesses initially choose to migrate from proprietary software to open source is to save money, according to Forrester. But although organizations save considerably on the licensing fees, that is not the only or even the main driver of cost reduction. Open source software also enables businesses to dramatically reduce expenditures in the following ways:

- **Deploy commodity hardware.** The ability to use commodity hardware such as Intel x86 systems rather than proprietary machines represents the largest cost-saving opportunity. Not only are the base systems much cheaper, but maintaining the hardware is substantially less expensive as well.
- **Eliminate pricey maintenance contracts.** The annual maintenance fees on proprietary software drive up the total cost of ownership (TCO) of such systems dramatically, whereas the enterprise versions of open source products generally include updates and maintenance as part of the core pricing model.



- **Get more functionality, reliability, and higher performance than in comparable proprietary products.** Not only do businesses typically get more functionality bundled with open source products than proprietary ones, but the products tend to be more reliable and higher performing than their proprietary counterparts, bringing down the TCO and allowing them to do more with less.
- **Increase worker productivity.** The quick learning curve coupled with the availability of sophisticated management and administrative tools allow businesses to allocate fewer personnel to routine support tasks, freeing them for more strategic IT work.
- **Avoid vendor lock-in.** With the widespread consolidation taking place in the software industry, businesses find themselves held captive to license and maintenance contract price hikes from proprietary software vendors. Because of the interoperability of open source products, businesses always have an “easy out” when it comes to moving to a different open source product.
- **Reduce the need for specialized security consultants and tools.** Because open source systems – specifically, the Linux operating system – are more secure than proprietary ones, fewer remedial activities and resources are needed to keep systems and data safe.

WHAT TYPES OF OPEN SOURCE SOLUTIONS ARE AVAILABLE TO HELP CUT COSTS?

Once a company has made the decision to move to open source, there are a number of different components that can be combined to form an open source IT stack.

- **Operating system.** Today’s open source Linux® operating systems feature the latest, cutting-edge technology advancements developed by the fast-innovating global open source community. Rapidly overtaking proprietary solutions in the market in terms of performance, scalability, and security, Linux operating systems are also extremely cost-effective, especially when offered via innovative business models such as subscriptions.
- **Middleware.** Stable and cost-effective open source and open standards middleware reference architectures are available for enterprises that require top performance capabilities. Now more than ever, it makes sense to shift to an enterprise-class open source middleware alternative to proprietary solutions.
- **Applications.** There are also a multitude of open source application alternatives to proprietary software that provide stable, high-performing solutions and services to enterprises.
- **Virtualization technologies.** Many datacenters have very low hardware utilization rates. This utilization can be dramatically improved through virtualization technology and the raw performance advantages that open source software delivers. With open virtualization, it is possible to improve operational efficiency without having to modify the application environment. For example, a server can be virtualized with one solution, and then run existing operating systems and applications as virtual “guests,” without making any changes to those operating systems or applications. This is a low-cost, low-risk way of significantly enhancing hardware utilization.
- **Systems management.** To easily manage and monitor your open source solutions, many open source vendors provide alternatives for proprietary systems management solutions. Linux management tools are better suited to managing multiple systems efficiently, allowing internal IT staff resources to redirect resources elsewhere for enhanced organizational productivity.



QUALITIES TO LOOK FOR IN AN OPEN SOURCE VENDOR

Once a business has decided to go the open source route, its next step is to choose the specific open source product(s) to implement. But even when cost is a concern – and even when it’s the primary reason for choosing open source to begin with – that doesn’t mean that should be the only concern when it comes down to selecting a vendor. There are other critical factors that will determine if a particular open source software deployment is successful or not.

- **Industry leadership.** Businesses are often as concerned about the financial stability of potential software vendors as the features of the products themselves. Open source is no different. Businesses need to choose a leading company in its market space – one that has a proven track record for delivering value to customers, a large installed base of users, and the broadest possible stable of independent software vendor (ISV), hardware partners, and trained workers in the marketplace.
- **High-quality products.** In addition to the sort of quality assurance, testing, and debugging that goes on in the open source community, leading open source vendors will perform exhaustive internal testing and quality assurance, and participate in certification programs that ensure compatibility with other hardware and software products. For many customers, the availability of audited performance results is an important criterion to be considered during the product evaluation and purchase cycle. Security is also an issue: certain vendors have over time proven their ability to deliver code that is of higher quality, with fewer bugs and security flaws, than other open source distributions.
- **Stellar support.** One of the key things that distinguish the free versions of open source software from the commercial versions is the quality of support. Choose a vendor that has a reputation for providing top-notch support as part of its enterprise solution. Leading open source companies will offer various tiers of support – including 24/7/365 coverage – and should include the caliber of help desk and escalation options suitable for keeping mission-critical applications up and running.
- **Extensive ecosystem.** The value of any computer system ultimately rests with the applications that run on it. One of the key differentiators of leading open source vendors is the number of certifications they have achieved in the technology world. Choose a technology vendor with the broadest array of hardware and software partners whose products have been certified to work with its products.
- **Availability of skilled professionals.** A critical concern of many IT managers is whether they will be able to find experienced staff members to support open source. This is a valid consideration. Choose a vendor that possesses the largest population of potential employees and contractors/consultants with the necessary skill sets.
- **Version and architecture independence.** Rather than settling for the rigid licensing structures imposed by most proprietary software vendors, look for an open source vendor with a flexible pricing scheme that allows customers to run any version of the software and transfer it across physical systems and architectures.
- **Legal protection.** Periodically, controversy erupts in the industry about the legal status of open source software due to potential copyright and trademark infringement violations. Seek a vendor that indemnifies customers against any potential legal problems that might arise.



CONCLUSION: HARNESSING THE PERFECT STORM

It's critical to understand that although cost-cutting measures might be driving this move to open source, there's also the issue of risk. In the past IT managers might have felt safer sticking with proprietary systems, but today the situation has been reversed: "playing it safe" with traditional technologies is actually the riskier course of action to take. Many enterprises that in the past considered open source to be too much of an unknown factor have completely changed their assumptions about how best to safeguard their organizations' futures.

This is a critical time that will impact IT for years to come. Businesses face an important choice. They can use conventional means of cutting costs by laying off workers, holding off on capital expenditures, and delaying deployment of new technologies. Or they could seize the opportunity to take their businesses in a completely new direction. By harnessing the perfect storm rather than letting the storm set priorities and dictate tasks, IT managers have the chance to truly transform their organizations through the use of open source.

ABOUT RED HAT

Red Hat, the world's leading open source solutions provider, is headquartered in Raleigh, NC with over 65 offices spanning the globe. CIOs ranked Red Hat as one of the top vendors delivering value in enterprise software for five consecutive years in the *CIO Insight* Vendor Value survey. Red Hat provides high-quality, affordable technology with its operating system platform, Red Hat Enterprise Linux, together with applications, management and service oriented architecture (SOA) solutions, including JBoss Enterprise Middleware. Red Hat also offers support, training, and consulting services to its customers worldwide.

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00800 7334 2835

www.europe.redhat.com

europe@redhat.com