

New Software Solutions—How Open Source Can Help *By Howard Fosdick*

The high price of computer software—whether it's to support the work of professional staff or to run an organization's server—can put a big dent in almost any nonprofit's budget.

But sticker shock isn't your only worry. When you purchase software products, you enter into a licensing agreement with the vendor—almost always on terms that are highly restrictive. You are forbidden from duplicating software CDs or installing software programs off the same disk onto more than one computer. If you purchase "site licenses," you may not legally install the same program on more than the agreed-upon number of machines.

Violating licensing terms can lead to expensive penalties. Many nonprofits unintentionally fall afoul of the law simply because they fail to maintain accurate inventories of the software they have purchased and cannot match licenses or receipts to installed software products.

For international charities, the challenges can be especially daunting. In Africa and Asia, more than 90% of all software is routinely copied (or "pirated"). How many NGOs can say for certain that their field offices have not followed local practice and installed pirated software?

One way to avoid these problems is with open-source software (OSS). OSS usually costs nothing. You may download it for free off the Internet, or you may buy it on CDs that come bundled with instructional manuals. (The software is included in the price of the manual.) Licensing terms for OSS are relatively simple; you may freely copy it and distribute it for use within your organization. And unless you intend to use the OSS to develop your own software product to sell, there are almost no restrictions. Not only is the software itself free of cost, it frees your organization from the nightmare of "license compliance" that invariably attaches to purchased software.

Why do computer professionals develop OSS? Well...why do people work for charities or do volunteer work? In part, the motivations are comparable. While some software developers write pernicious computer viruses to wreak havoc, others develop free programs to advance the common good. According to the Open Source Initiative, a nonprofit group that promotes OSS, "The basic idea behind open source is very simple: When programmers can read, redistribute, and modify the source code for a piece of software, the software

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evolves. People improve it, people adapt it, people fix bugs. And this can happen at a speed that, if one is used to the slow pace of conventional software development, seems astonishing."

Of course, selfless benevolence isn't the only driving force behind open source. Some computer professionals are able to build for-profit companies around OSS. These companies sell related software tools, books, tutorials, training materials, consulting services, or problem-solving hotlines. OSS is free, but it supports an entire industry of related products and services.

As the OSS movement has gained momentum, OSS itself has gained widespread acceptance. In fact, many large for-profit companies have started to integrate it into their critical computer operations. Some computer professionals are applying it everywhere possible. Others might be familiar with one or two open-source tools, but they remain unaware of the scope of the movement, the variety of software available, or the many ways that a particular organization can use it. That's to be expected. Computer professionals are specialists. Working in such a fast-moving field, few can keep up with anything other than their own narrow specialty.

I, for example, work with large databases, and I concentrate on those used by big businesses. I became aware of open source several years ago, but since it did not appear to apply to databases, I lost interest. When I looked up from my desk again, about a year ago, I was amazed to discover how much the open-source movement had grown.

Your IT pros may be in a similar position. Show them the charts on page 5, then give them some time. With the chance to surf the Internet for information, talk to their peers in online discussion groups, and think about what they're learning, an incremental plan to move your organization toward open source can take shape.

Let's examine a few targets of opportunity.

The Desktop

Microsoft Corporation has long enjoyed a monopoly on both the operating system (Windows) and the office productivity tools (Microsoft Office) that most PCs run. According to some estimates, that monopoly yields Microsoft an astounding 85% profit on these products. Moreover, Microsoft has mastered the art of planned obsolescence. New releases of Windows require

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new releases of Office, and the inter-operability of various Microsoft products is severely limited. As a result, most customers find themselves forced to upgrade their desktop software every few years.

Then there are Microsoft's licensing terms, which have become increasingly restrictive. The latest version of Windows (called XP) includes a facility called "Windows Product Activation" that limits how often a user can re-install the products (even in the event of software or hardware failure). Now Microsoft has come up with a "Software Assurance" plan that requires business licensees to pay a yearly fee, even for years in which Microsoft delivers no product upgrades.

For those who want to get off the upgrade treadmill, open source may be the answer. OpenOffice is the open-source competitor to Microsoft Office. It does perhaps 90% of what Office does at a 100% discount in price. And it's designed to require minimal retraining of Office users.

Whenever you use software that doesn't dominate the market, one concern is whether you can share data files. For example, when you create a document in Microsoft Word, that document becomes a data file stored on your PC's disk, in a specific file format. Others can work with your document only if their software is able to read that file format. I've found OpenOffice does a great job of reading and writing MS Office documents. (Conversion problems only occur with a few, rarely-used advanced features). And OpenOffice works well with Microsoft Excel spreadsheets, too. But I cannot vouch for the ability to exchange other kinds of files between OpenOffice and Microsoft Office. (Of course, file exchange only matters if you intend to work on the same files with both products. Otherwise the issue is moot.)

To confirm that OpenOffice fits your organization's needs, check the product reviews included in the chart below. Better yet, install OpenOffice on a Windows PC and see for yourself whether it meets your needs. The trial costs nothing.

Linux is the open-source replacement for Windows. Just a few years ago, Linux was difficult to install, to use, or to find software for. Now all that has changed. I installed a new version of Linux by simply popping the CD into my drive (much as one would when installing Windows).

OpenOffice runs on Linux as well as Windows, and many other Linux programs are now available. The Linux bandwagon has grown to the point where even Wal-Mart has started selling PCs that run a version of Linux

called "Lindows."

(The bandwagon did hit something of a snag last March, in the form of a lawsuit filed by SCO Group, a Utah-based software firm. The suit alleges that certain codes for the Unix operating system—the rights to which SCO now owns—were illegally acquired in the course of producing Linux. While the ongoing controversy has made some systems administrators more cautious about incorporating Linux into their operating systems, open-source advocates dispute the merits of the SCO suit, arguing that the codes in question were never proprietary in the first place.)

In addition to Linux and OpenOffice, various other applications are available for the open-source desktop. Internet browser programs allow you to surf the Web and read and send e-mail. These include Mozilla, Opera, Evolution and Konqueror. If you have a favorite or difficult-to-replace program that only runs under Windows, you might try Linux programs such as WINE or Codeweavers CrossOver, which allow you to run many Windows programs directly under Linux. That way you can have a complete open source desktop and still run the one Windows program you need to keep under one of these two products. Another possibility is to convert to Linux as your primary desktop operating system, but retain the ability to "dual-boot" two machines. Dual-booting lets you decide whether to run Windows or Linux when you turn on your PC. Linux comes with dual-booting built in and will co-reside with Windows on the same machine.

Server Software

The software that runs on big shared computers (servers) can be extremely expensive to purchase. This is especially true if you run a large data center. The accompanying chart lists some major open-source software products and the functions they serve in the data center. Issues surrounding servers require IT knowledge, so you'll have to confer with your IT staff as to which products they currently use and where the opportunities lie with OSS.

Many sites already use open-source software but in very limited ways. (OSS has become so ubiquitous that some sites use it in their software infrastructure and don't even know it!) You will probably be able to identify new opportunities for OSS to replace proprietary software—though you should be aware that server conversion is considerably more complicated than installing new software on a single PC.

Your Next Steps

To learn more about open-source software, explore the Web sites in the accompanying charts (page 5). Do your own investigation. Talk to your computer support people to decide what makes sense for your organization and then come up with a plan.

If you do decide to move forward with OSS, don't try to make it all happen overnight. Instead, look for the niches where OSS adds value, or where significant savings are possible. Changing the software that your organization uses isn't simple—even when the software is free. But over time, the benefits of eliminating licensing rules and fees, gaining independence from vendors, and using Internet-supported software may well be worth the effort.

FAQ and Charts

FAQ	
What is open-source software?	www.opensource.org or www.gnu.org or www.eweek.com/article2/0,3959,362400,00.asp
How widespread is software piracy?	www.spa.org/piracy or www.bsa.org/usa
What's in a typical Microsoft product license?	www.microsoft.com/licensing/Default.asp Or search for the file "eula.txt" on your PC's disk drive.
What's in an open-source software license?	www.gnu.org or www.dwheeler.com/oss_fs_why.html
Are software vendors' licenses unreasonable?	See Ed Foster's frequent columns on vendor abuses in <i>Infoworld</i> at www.infoworld.com
Where can I	See Brian Livingston's columns over the past

find evidence of Microsoft's practices?	few years in <i>Infoworld</i> at www.infoworld.com
What's the cost justification for open-source software?	www.dwheeler.com/oss_fs_why.html or www.cyber.com.au/cyber/about/linux_vs_windows_tco_comparison.pdf
Can I replace Microsoft Office with OpenOffice?	See OpenOffice reviewed at www.eweek.com/article2/0,3959,5398,00.asp
Where can I get OpenOffice?	www.openoffice.org
Can I replace Windows with Linux?	See reviews at www.eweek.com/article2/0,3959,633883,00.asp www.eweek.com/article2/0,3959,633867,00.asp
Where can I get Linux?	www.linux.org or www.redhat.com or www.unitedlinux.org Linux also comes on CDs packaged with instructional materials available at most bookstores.
Is the OSS e-mail and calendar product Evolution a good replacement for Microsoft Outlook?	See review at www.eweek.com/article2/0,3959,768073,00.asp
Where can I get Evolution?	www.ximian.com/products/evolution
Where can I get Internet browser/e-	www.mozilla.org , www.opera.com

mail programs such as Mozilla and Opera?	
Where can I find a list of Windows programs that run on Linux using WINE?	http://appdb.winehq.com
Where can my IT staff get open-source software?	www.sourceforge.net or http://gd.tuwien.ac.at/ or http://freshmeat.net or www.linuxapps.com or www.linux.tucows.com
Where can my IT staff get open-source programming languages?	www.activestate.com
Where can my IT staff get other open-source products?	www.apache.org or www.mysql.com or www.postgresql.org
Where can my IT staff get technical tutorials on OSS?	www.oreilly.com or www.onlamp.com or at most bookstores

OSS for the Desktop

Category:	Major OSS Products:	Ready for Prime Time?
Operating System	Linux	Finally, easy to use and on the verge of a major breakout

		into widespread popularity.
Office Suite	OpenOffice	A fully competitive and largely compatible replacement for Microsoft Office.
E-mail and Desktop Calendar	Evolution	Reasonable replacement for Microsoft Outlook, Lotus Notes or Novell Groupwise.
Browser & E-mail	Mozilla, Netscape, Opera	As good as Microsoft's Internet Explorer, but sometimes less compatible with the Web sites you'll visit.

OSS for IT Professionals

Category:	Major OSS Products:	Ready for Prime Time?
Operating System	Linux	Linux has become mainstram in the data center, and enjoys major support from IBM, HP, and other vendors.
Web Server	Apache	When you use the Internet, 50% to 60% of the Web sites you visit are powered by Apache software.
Databases	MySQL,	OSS databases lag

	PostgreSQL	behind big-name vended products like IBM's DB2, Oracle, and Microsoft's SQL Server.
Programming Languages	C++, C, Smalltalk, Basic, ADA, Lisp, COBOL, Pascal, etc.	Most programming languages are available in OSS releases that are just as good as their vended counterparts.
Scripting Languages	Perl, Rexx, Python, awk, Tcl/Tk	OSS scripting languages are mature and often better than their vended counterparts. Why pay?
Web Scripting Languages	PHP	PHP is often used on conjunction with Apache and Perl to develop Web sites.
Develop Tools	Too many to list	Many OSS tools are available, but software vendors still offer larger, more comprehensive tools for developers.

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