



Attorneys at Law

# Consortium Standards Bulletin

A ConsortiumInfo.org publication

AUGUST 2004

Vol III, No. 8

## FEATURE ARTICLE

### THE ROAD AHEAD – THREE VIEWS

Andrew Updegrave

**Introduction:** The evolution of open source from a concept to a broadly implemented development and licensing model has been impressive, and in many ways unprecedented. Rather than a top-down process launched by vendors, it has been very much a bottom-up movement launched by the employees of vendors, working on their own free time.

Today, the interests of vendors and individual engineers are converging. Significantly, customers are also taking an active interest in open source, rather than simply buying what vendors choose to offer them. Governments at all levels in particular have made public commitments to the open source licensing model, commanding further attention from the vendors that would like to provide the products and services that would accompany a migration to open source platforms by these substantial customers.

While this transition offers great promise, it also brings the challenge of meeting higher user expectations as the market emerges from its early adopter phase. Similarly, with success comes competition, as well as assertions of intellectual property rights. Playing on a broader court brings contact with more elbows, and the game can only pick up speed as the stakes are increased.

**Three Experts:** In order to dig deeper into the challenges that lie between early and broad adoption of open source, and to investigate how those challenges may best be addressed, we interviewed three leaders in the open source field. Each is a true believer in open source, but also a pragmatist that is committed to making open source a widely adopted reality. They are:

**John Terpstra:** John's business card title is CEO of PrimaStasys, Inc., but his additional credits include helping form the Desktop Linux Consortium, being a long-term member of the Samba <http://us1.samba.org/samba/> development team, and authoring several books. His reputation is as a visionary in the open source community, with particular expertise on the adoption of open source software in key business applications.

**John Weathersby:** John is the founder and executive director of the Open Source Software Institute (OSSI) [www.oss-institute.org](http://www.oss-institute.org), a non-profit organization promoting the development and implementation of open source software for governmental and academic users. Before founding OSSI, he was a co-founder of SAIR Linux and GNU Certification, one of the early industry's leading Linux training and certification companies, which went from concept to becoming part of a publicly-traded entity in the space of 14 months.

**Jim McQuillan:** Jim is the founder of the Linux Terminal Server Project (LTSP) [www.ltsp.org](http://www.ltsp.org), which has received worldwide recognition as the standard method of deploying thin clients in a GNU/Linux environment. He is also an owner of DisklessWorkstations.Com, a supplier of thin client hardware and services to the Linux market, and as a consultant deploys Linux based solutions in medical offices.

**Questions and Answers:** Our interviews were conducted by telephone and email on August 13 – 15. Here's what our experts had to say:

**CSB:** *First, a few questions for context: Why are you interested in helping open source become ubiquitous as a business reality and a licensing model?*

**JT:** Our freedom to think and act, to share knowledge and information, and to deploy concepts to the maximum benefit of society, is vital for my children and yours. I believe that someone who works hard should be generously rewarded also. Open source software forces a change of business model from being software and intellectual property focused to one where satisfying the service needs of customers must lie at the heart of business activity (it always did anyhow). What open source promotes is nothing new, but it does attract much attention because it is more difficult to provide sustainable service than it is to “sell a license to use software.” Open source software as a business factor necessitates customer needs satisfaction through service.

**JW:** OSSSI's mission is to promote open source within the public sector. The philosophical argument behind this is simple: we believe that the adoption and use of open source solutions within the government represents a very wise use of public funds. As taxpayers, we have the right to expect that our dollars will be used in the most fiscally responsible, as well as technically efficient, manner possible.

From a business perspective, OSSSI was formed to help promote and facilitate the adoption of open source solutions within the government market segment. But achieving that goal will have a broader impact as well. The government is one of the largest purchasers and users of IT products and services in the world. Acceptance of open source as a viable technical and business solution within the public sector will drive the entire IT industry's business strategy to include open source as a part of all of their offerings.

**JM:** I think it is important that consumers and business are not locked into proprietary solutions -- especially when we talk about the standards used for communications and interoperability. No one company should be allowed to own the standards that have become so important to our everyday lives.

**CSB:** *What specific open source projects are you personally involved in?*

**JT:** I helped to form the Samba Team. I've been active in answering user requests on the Samba mailing lists, have managed the bug tracking system, and have written most of the project documentation over a 9 year period.

I was also a co-founder of the United Linux initiative [www.unitedlinux.com](http://www.unitedlinux.com), and am currently authoring a series of 5 to 7 books for the Prentice Hall, Bruce Perens Open Source series that demonstrate “by Example” how open source software can be deployed.

**JW:** Currently OSSSI is working with a branch of the DoD to help secure the NIST/FIPS 140-2 certification for OpenSSL. We are also involved with the U.S. Navy on several projects that include technical and business case studies with regards to their present and future usage of open source. We've also began working on a Homeland Security project that will generate several open source applications for law enforcement agencies. These will be submitted to a public repository so that public entities throughout the nation can use and benefit from these efforts.

**JM:** I'm directly involved in LTSP, and in the deployment of Linux in general. I've been developing Unix and networking solutions since 1984, and have been working with Linux since 1995.

**CSB:** *Now let's turn to your views on the challenges that open source is facing today. What do you think are the biggest roadblocks standing in the way of broader adoption of the open source model?*

**JT:** Linux and BSD-UNIX companies are targeting proprietary UNIX business. This is a much smaller market than is the Microsoft market. The vertical business solution market that is the stronghold of

traditional UNIX operations also has a repurchase cycle that is much longer than that of the infrastructure computing market that Microsoft services. Having a long sales cycle and a smaller market can make open source less appealing for a product or service supplier. Also, I believe that open source oriented businesses must focus more extensively on how to meet customer needs. Much open source software is still too difficult for use by non-technical consumers.

**JW:** There are several obstacles that seem to challenge most open source adoption strategies, especially for public entities. These include: policy, support, the economics/business model, and general management's resistance to change.

We are working with entities now that want to more broadly adopt open source, but they have to do it in a way that is logical to their existing policy code and structure. Simply getting your arms around the concept of open source can be challenging if you approach the topic cold. It takes time, patience and persistence.

The question of support is a common concern. It's great that open source software costs less, but who does the user call if it breaks? That question is very easily answered, but it's one that always comes up and we, as the open source community and industry, must respect the concerns of the client/customer.

The support issue leads into concerns over economic and business models. The customer needs to have confidence that you, or someone else, will be there to fix it if it breaks, or blinks, or needs updating or tweaking, and not be out of business. The very public commitments by the largest IT providers have gone a long way to smooth many nerves by saying that open source is good enough for them to sell and service, so it must be good enough to buy. It is again, a matter of the buyer's confidence.

And finally, resistance to change. To some, open source is a brand new concept. To others, it's been around longer than almost all proprietary solutions. But the only opinion that counts is that of the person or people that are making a specific purchasing or strategic IT decision as to how viable open source would be within their system....Selling open source takes patience, persistence and respecting the concerns of those who are considering adopting open source as part of their system.

**JM:** I don't see roadblocks in the way of broader adoption. They are more like speed bumps. There are many things that are just slowing down the adoption of open source technologies. For example, through the LTSP, I'm involved in deploying Linux in schools. Many people in the school systems are still resistant to teaching anything other than the Microsoft applications, citing that they want their students to be prepared for the real world. And somehow, teaching them only MS Word is going to do that. I think that's just wrong. They should be teaching the kids "word processing," not "MS Word." When kids take drivers education, they don't learn to drive "Chevy cars" do they ?

**CSB:** *And now a similar question, but with a different twist: What are the biggest business challenges standing in the way of broad adoption of the open source model?*

**JT:** First and foremost, few software vendors have identified where the sustainable short-term, medium-term and long-term business opportunities lie. There are 2.5 million UNIX systems and 16 million Microsoft Windows servers. The Windows users want a choice of alternatives and have little to choose from. UNIX users have greater choice. Which market would you rather sell to?

Second, open source oriented businesses need to better analyze the market and adopt channel strategies that will enable all viable market segments to be reached in a profitable and cost effective manner. Today most vendors work largely through the large equipment vendors and have ignored the small to medium reseller channel.

**JW:** A primary challenge is simply the amount of time it takes for any new model to become adopted and accepted as truly mainstream. We are seeing that acceptance now. Open source has crossed the chasm and is now being considered and adopted as a stable, secure, reliable solution.

But the most substantial hurdle that still remains in my opinion is the continued refinement of sustainable business models for those that offer open source products and services.

**JM:** Two things. First, the opinion that open source software is not supported by vendors. People are afraid to use a product if they can't call the company and get help. The second is ease of use. Open source software still has some work to do in this area, but fortunately, it is being done.

**CSB:** *What specific technical areas do you see that must be addressed?*

**JT:** We need open public standards for all software. Open standards help to level the playing field. An additional area for improvement is ease of initial configuration to provide services equivalent to those provided by Microsoft Small Business Server. Administration needs to meet the same standards as well.

**JM:** Open source has already provided a much more robust operating system than we've seen from the commercial software companies. Certainly, we need to keep going in that direction, continuing to improve the reliability and security of the OS.

**CSB:** *Do you see a need for standards in support of open source, and if so, in what areas?*

**JT:** The vast majority of software that is used today lacks standards for file formats and for protocols. The dominant office productivity package (MS Office) uses proprietary file formats that change regularly. That change is often a catalyst for software updates and gives the vendor effective customer lock-in. Windows networking protocols are constantly being updated and yet remain insecure as evidenced by constant virus and worm threats. We need open public standards to help create more secure networking practices.

**JW:** The adoption of common standards is beneficial to all sections of the software marketplace and especially to the end-users.

**JM:** I don't think it is a matter of "standards supporting open source." I think that ALL standards just need to be open. There are standards that are recognized by the standards bodies (ISO, ANSI, IETF, etc.), and then there are standards that people have simply adopted. The official standards are free to use, but the de facto standards, many times, are closed and controlled by individual corporations who stand to benefit greatly by keeping those standards closed. There should be real standards for document and data interchange, so that all software is free to use. The fact that most people think MS-Word ".doc" and ".xls" formats are OK to be used for sending documents around via email is absurd. If people are going to be sharing documents, the standard format of those documents must be open for all to use.

**CSB:** *What clear milestones do you see that must be passed or hurdles surmounted in order for open source to become more prevalent?*

**JT:** The first challenge is that open source vendors need to become more focused on customer needs. Rather than just offer a work-alike alternative, we need to gain a better understanding of information needs and how people use information, and then deliver the next generation of software products – all of which freely inter-operate through unified interfaces.

**JW:** Open source clearly has a stronghold within the backend system elements. I find it very interesting to watch how the challenge for desktop marketshare is unfolding. I don't know if Microsoft will ever be completely unseated from the desktop, but I think that they realize that Linux poses a serious challenge to their current position. At least they should. It will be very interesting to see how this plays out over the next few years.

**JM:** I see the open source world as a freight train moving down the tracks at 50 miles per hour. It's going to keep moving no matter what. Picking up boxcars along the way, giving it more mass and

momentum and not stopping for anything. As more companies start using open source software, and announcing the fact that they are doing that, the speed of the freight train will increase.

**CSB:** *Currently, the open source process spectrum ranges from SourceForge to the more ordered Linux community to the more consortium-like Eclipse model, to projects hosted within standards consortia like the W3C, to corporate-funded development shops such as OSDL. We'd like to ask some questions now that focus on how this diverse process landscape is likely to evolve in the years to come.*

**Do you believe that all of the current open source development models will perpetuate? If not, which ones will best serve business, government and other large enterprise users? And will individual engineers still play a vital role?**

**JT:** Human nature is to coalesce around challenges. Like-mind problems attract like-minded people. The opportunity today is for better communication across project groups, and through greater recognition of the vital role of standards. Standards facilitate competition.

**JW:** One of the true strengths of open source is its non-exclusive development nature. This is obviously what makes all of these development models possible. But most projects are supported, or directly funded, by a corporate sponsor who has some vested interest in the particular program or solution. This is even true within the various communities.

I think these various development models represent a very healthy community and I hope that they all continue to some degree. But I also hope that open source never loses that "labor of love" element that makes it special. How could any project, strictly developed by business intentions, compare with the likes of a Debian [a free, Linux-based operating system] or so many other projects that were created and maintained by a small group of volunteers because it was "their thing to do?"

That's what makes us a "community," and not just an industry.

**JM:** I think there's room for all of those places to continue to provide viable open source code. Good ideas are coming from everywhere. Sites like SourceForge allow anyone to jump into the game and contribute what they can. The barrier to entry is completely missing in the world of open source. Anyone with an idea can contribute.

**CSB:** *Can a Linux-like process be tightened sufficiently to provide the same degree of assurance against infringement that a consortium or SDO process can (not that those are closed to foolproof, either)?*

**JT:** They ultimately must. That is part of the paradigm shift in the wake of recent IP litigation. The answer is Yes! Already, the code version control system used by all major projects means it is easy to trace code origins. The benefit is that contributors expose their contributions in a way that increases public accountability.

**JM:** There are 2 issues here: Copyrights and Patents. With open source, we need to be certain that proprietary code doesn't end up mixed in with open source code. This requires careful watching of the code contributions. I think a more formal process of accepting code from contributors will eventually be worked out. The bigger problem is with software patents. This can stop a project dead in its tracks.

**CSB:** *If changes are needed to a Linux-like process, what are they?*

**JT:** Open source developers are learning to be more disciplined in code development and in the process of patch acceptance.

**JW:** To be seen...

**JM:** I wish I knew.

**CSB:** *Is the age of process innovation over? Do you believe that current development models will go into a consolidation phase leading to less flexibility, or will process experimentation continue?*

**JT:** Complex issue. I believe there will be a division into a purely research/experimental community and a more commercially oriented community.

**JW:** As any development process matures, the public face of innovation seems to slow, but I think we're just getting started. This market is so dynamic and there are so many really smart people involved and empowered with the freedom to create that I believe that the open source process will only continue to grow. It will evolve, of course, but that too is inevitable.

**JM:** It will always continue. People are always looking for a way to build a better mousetrap.

**CSB:** *Same question regarding licensing models: is it time to quit experimenting and settle on a smaller number of well-understood licensing models, or is that not necessary?*

**JT:** Licensing terms are emotive issues. I believe we have quite some ways to go before there will be a significant coalescence. He who writes the code gets to choose the license.

**JW:** At Linux World in August, Martin Fink of HP said that he deals with numerous new open source projects each week and he thinks there are more than enough existing licenses to deal with almost every circumstance that arises. I tend to agree with him on that.

Eric Raymond said that a lot of the various licenses are simply "vanity licenses," which also makes sense. With that in mind, I believe that we will see a refining of the license process. The market will dictate that there is only a need for a handful of relevant licenses that covers the majority of issues.

**JM:** Maybe some consolidation is necessary. There are many choices of license to use in an open source project, and more are being invented every day.

**CSB:** *As Open Source becomes more mission critical, who will pay the bills to support the process, and what will they expect to receive in exchange?*

**JT:** As big companies become more committed to open source, they will want to hire the best people. Logically, they will want to hire out of the open source community. That will allow the same companies to have more influence over open source projects, as these employees will be more successful in getting the types of changes they would most like to see.

**JW:** I think that you'll see more corporate entities "adopt" programs and try to brand them as their own. This process will alienate some developers and you'll see forks and spin-offs, but that's part of the process.

Along these lines, I hope that we'll see more positive corporate adoption of programs like J Boss with Apache or Sun's sponsorship of OpenOffice through their StarOffice product. I think these are good examples of open source and corporate interests existing in a positive, symbiotic relationship between community and industry and end-user.

**JM:** As more commercial users are involved, I expect to see more corporate sponsorship of projects.

**CSB:** *One last question to wrap things up: five years from now, what do you believe a typical Open Source project will look like (if there is such a thing)?*

**JT:** Five years ago at Samba we put together our first bug-tracking system; today, we have a much more effective and efficient one, with the equivalent of a near full-time person who determines what is



and what isn't a bug, and triages what must be done when in response. In short, today we have more discipline and structure. The challenge one encounters in this type of evolution is between process and productivity, and in keeping the flame alive. This process (and challenge) will continue. As a result, some projects will scatter; and others will go back into enclaves. A significant number will scale into something new. The open source model is demonstrating greater scalability than the closed source proprietary model.

**JW:** From a government perspective I think you'll see more public sponsorship of open source projects, and this will benefit everyone. When public dollars go to develop, or enhance, an open source project, then that project becomes a true public asset.

I do not buy the argument that this creates a "competitive" situation between government and industry. I don't believe that we should have to pay time and again for the same program when it has become a commodity.

As for industry, I think we'll see more of the type of service plays we see growing now within HP, IBM, Computer Associates, and the other industry service leaders. From a product development side, we'll see more industry players leveraging open source to provide not only a cost saving and efficiency advantage to their customers, but they'll also see an increase in their profit margins as more open source solutions mature and become a part of the common resource that all can take from and contribute back to. In short, I see this as a very healthy model that will grow and prosper.

**JM:** In five years, I expect that there will still be many of the same issues. Microsoft will still be pushing their proprietary solutions, and the open source groups will still be here. But, I think the pie will be sliced up in very different proportions. Five years from now, I expect that open source will be much more prevalent than it is now. Much like it has changed from 5 years ago.

Open source is important. Extremely important. Open source software powers the Internet, and it will power the future as well.

*Comments?* [updegrove@consortiuminfo.org](mailto:updegrove@consortiuminfo.org)

Copyright 2004 Andrew Updegrove