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ODF VS. OOXML ON THE EVE OF THE BRM

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that Tyrannosaurus Rex of the Internet: Google. Or perhaps not: T. Rex, it seems, is hatching a challenger to that Brontosaurus of the Virtual world, the Wikipedia.

NEW AT CONSORTIUMINFO.ORG: A New Look for the Standards MetaLibrary……36

In February of 2005, ConsortiumInfo.org launched the Standards MetaLibrary, describing it as " the only on-line research resource focusing exclusively on standards and standard setting." Now, the MetaLibrary has been completely redesigned, and new material is being added aggressively. Download PDF/Link

ABOUT THIS ISSUE:

On the Road to Geneva

Two and a half years ago, some of us learned a new three letter combination: "ODF." Today, tens of millions of people are familiar with that acronym, as well as another: "OOXML." The former is short hand for the OpenDocument Format, an OASIS developed and ISO/IEC JTC1 unanimously adopted standard that enables documents created in one compliant software package to be easily exchanged with another. A variety of proprietary and open source products, both traditional and Web-based, support ODF

OOXML stands for "Office Open XML," a specification that describes the XML-based structure of Microsoft's Office 2007 suite. OOXML was adopted by Ecma last year and then also offered up to ISO/IEC JTC1, where it has had a stormy ride. Last year, OOXML failed to garner the necessary votes to gain approval at the end of a "Fast Track" review period, accumulating 3,522 comments along the way. OOXML is implemented in Office 2007, and to a greater or lesser degree is being incorporated into other products, primarily for the purpose of interoperating with Office.

On February 25, dispositions proposed by Ecma to those comments will be reviewed by National Body representatives in Geneva, Switzerland, and on March 29, the final fate of OOXML in JTC1 will be determined, although not the outcome of the commercial battle that will continue to rage in the marketplace between Microsoft, on the one hand, and industry giants such as IBM, Sun, and Google, on the other. The continuing adoption of ODF has also become a *cause célèbre* among proponents of open standards, open source software, and (how to say delicately?) those that do not have great affection for Microsoft.

I first wrote in detail about ODF in September of 2005 when I dedicated an issue of this eJournal to that topic, calling it Massachusetts and OpenDocument: the Commonwealth Shows the Way. As the title indicates, I believe that "open document formats" are vitally important, and in the months thereafter, I have dedicated more than 100 blog entries to reporting on this story as it continued to evolve.

Why do open documents matter? Quite simply, because our continuing ability to access the documents will determine whether the future will have access to the past – a real concern as we become more beguiled by the advantages that new technologies offer, without paying adequate attention to what we sacrifice when we transition away from the less nimble and compressible, but far more stable and durable storage media of the past. For an illustration of this tradeoff, you may wish to read the *Consider This* piece from that past issue. It's titled Clay Tablets, iPods, and Evo/Devolution, and makes for a light, but still sobering read.

Which brings us to this new issue on open document formats. In it, I attempt to present the ODF – OOXML sage in a variety of perspectives, beginning with the

Editorial, which notes that the traditional standards adoption process has been overwhelmed by the effort to "Fast Track" a 6,000 page specification, which garnered 3,522 comments and a 2,300 page comment disposition document, and a storm of contentious lobbying and debate as well. My editorial calls for an overhaul of that process, if it is to remain relevant and useful to the IT industry. It also calls for greater transparency in a process that affects us all.

My ***Feature Article*** seeks to dive beneath the ODF-OOXML conflict in order to explore the wider technical, competitive and political context in which this standards war is being waged. In doing so, I suggest that while bitter, this competition is but a skirmish in a more systemic reordering of the influence and market position of the Great Powers of information technology.

As you may have guessed from the above, the shooting war between the advocates of ODF and OOXML makes for quite a story. Not only is the story line itself intriguing, but the ongoing events illustrate how new technologies and the great companies that rely upon them rise, fall, compete and evolve, profoundly affecting our lives along the way. Many journalists agree, and coverage continues to widen around the world.

Needless to say, it has captured my interest as well. In the course of reporting this saga, I have interviewed many of those most closely involved, as well as read thousands of articles and many primary resources. The result is a new writing project that I launched at the end of November – an eBook in process, with the working title of *ODF vs. OOXML: War of the Words*. I've posted five chapters at my blog to date, and will continue to add new ones every week or two. The first chapter is included as this issue's excerpt from ***The Standards Blog***.

The ***Consider This*** essay for this issue explores a different theme, which is the mysterious ways in which the most successful Web projects draw people from all over the world. Google has launched yet another one of its on line project trials in (thus far private) Beta form, offering knowledge experts the opportunity to experiment with different models of on-line collaboration. It will be interesting to see what may evolve from this intriguing beginning.

Finally, I'm pleased to share the latest site redesign launch at ConsortiumInfo.org. Yesterday, we pushed the new pages live at the ***Standards MetaLibrary***, bringing the same clean new look and feel of Standards Today to this unique Web-based research resource. If you've never visited the MetaLibrary before, take a moment now to become familiar with it. And if you know of worthwhile work that is not already included in the over 1,000 articles available through the MetaLibrary, please let me know.

As always, I hope you enjoy this issue.

Andrew Updegrove
Editor and Publisher
2005 ANSI President's
Award for Journalism

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EDITORIAL:

The Overwhelming of ISO/IEC JTC1

Andrew Updegrove

On February 25 the doors of a conference room in Geneva, Switzerland will swing open to admit 120 standards professionals from 40 nations around the world. The unenviable goal of these chosen few over the ensuing five days will be to reconcile the technical comments that have been tendered in relation to a single specification proposed for adoption by ISO/IEC JTC1. I say unenviable, because what happens behind those doors after they close will more likely resemble a contentious debate in the General Assembly of the United Nations than the purely technical deliberations of a standards committee.

The reason, of course, is that this is no ordinary specification, but DIS 29500 (a/ka/ Ecma 376 Office Open XML, and more commonly referred to as simply "OOXML"). Few would disagree that OOXML has garnered more vendor attention, attracted more efforts (both pro and con) in more countries around the globe, and earned more publicity than any other IT specification in recent memory. Quite simply, it is the standard of the decade – at least if conflict is the metric.

Last year, OOXML failed to achieve the necessary support to progress directly to final approval. Along the way, it accumulated 3,522 comments, and the purpose of the Ballot Resolution Meeting (BRM) that will commence on February 25 will be to attempt to resolve a sufficient number of those comments to the satisfaction of the relevant JTC1 members to allow OOXML to be finally approved. That determination will be made in the thirty days following the close of the BRM on February 29.

Alex Brown, the designated Convenor of the BRM, is likely to face a daunting challenge in managing the process, due to the level of emotion that has surrounded the consideration of OOXML to date, the shear volume of comments that must be addressed, and, finally, the overwhelming length – 2,300 pages – of the formal Proposed Disposition of Comments document that was released on January 14th to the National Bodies (but not the public), and which will function as the basis for discussion.

While the proposed dispositions have been released in batches beginning in December, someone just commencing the chore of wading through them on January 14th would need to understand, evaluate and form an opinion on over a hundred comments, and more than half that many pages, every day of the week between now and February 25th. Given that each comment disposition previously released was packaged in its own, separate PDF file, and posted to a Web site in batches of 500 or more at a time, that is presumably what many delegates will in fact need to do. More than ironically, OOXML was submitted to ISO/IEC JTC1 under its "Fast Track" process, although the specification itself was over 6,000 pages in length.

Given the technical complexity of both the comments submitted as well as the dispositions proposed by Ecma, BRM attendees will be severely tested by the challenge of fully reviewing the resolutions proposed by Ecma in the dispositions document and considering what helpful alternatives they might offer in their stead. Certainly the time available will offer little opportunity for attendees to talk in advance among themselves.

Of equal concern is the fact that only one week will be available for the BRM to complete its work, with no provision for an extension. Whatever is completed to the satisfaction of the attendees by the end of the week – and as significantly, what is not – will obviously have an impact on the final outcome. Happily, many of the comments that must be addressed are not likely to be contentious, and Alex Brown anticipates that the resolutions to these comments will be approved quickly, and in batches. Whether or not all of the remainder can be discussed to the satisfaction of those in attendance, however, remains to be seen.

Achieving that result will be Brown's goal, and last year he launched a blog at which he has regularly shared his plans for managing the BRM, displaying both a sense of humor as well as a commendable determination to conduct the meeting in a no-nonsense fashion. If he can maintain both order as well as his composure (let alone his sense of humor) through to the conclusion of the process, he will have performed well indeed.

But what will the outcome of the BRM be, and how well will it reflect on the process that will conclude at the end of March? Here are a few observations to consider in formulating an answer to that question:

- Many members of SC 34, the committee that considered OOXML last year, complained that they had too little time to properly review OOXML, due to its unprecedented length.

- It has been universally acknowledged – including by some at Microsoft – that OOXML was in need of serious improvement at the time it was submitted to ISO/IEC JTC1, even though it had been processed and approved by Ecma for that purpose.

- Due to the 6,000 page length of OOXML, not all problems are likely to have been identified during the formal review period. But any deficiencies in OOXML discovered after September 2, according to the JTC1 Directives as cited by Brown, are "out of scope," and may not be addressed at the BRM. Instead, they must await resolution in the next review cycle (i.e., years in the future).

- The only complete office suite implementation of OOXML to date is Microsoft Office 2007, which has already shipped. If OOXML is approved, it remains to be seen whether, and if so when, it will be implemented in its final form by Microsoft, and if so, how many of its customers will install the service packs or other updates that would bring their software into compliance. Any discussion of these issues will also be "out of scope" at the BRM, which is intended to address purely technical issues, and there is no other venue at

which such issues can be discussed and addressed. As a result, the main goal used to justify the adoption of a second format standard for editable documents may not be achieved – assuring access to documents already created in Office by means of an open standard – in the future. Moreover, in early January it became known that Microsoft had issued a service pack in September to Office 2003 customers that deliberately disabled their ability to access documents originally created in some earlier versions of Office, undercutting the rationale for adopting a second revisable open format document standard at all.

- It does not appear at this time as if the resolutions proposed by Ecma will be made available at a public Web site before the BRM, if ever. Consequently, the 500 million users of Office and the legions of independent software vendors whose software must be used in conjunction with Office will have no opportunity to convey their opinions to the delegates that will nominally represent their interests at the BRM.

- The final vote on OOXML will follow the conclusion of the BRM, whether or not all comment resolutions have been resolved. It appears that if the vote is in favor of adoption, unresolved comments will not be dealt with, if ever, until the next review cycle.

- No outsiders will be allowed to attend the BRM, nor will any transcript be prepared and made available.

Brown points out at his blog that much of this is in compliance with the JTC1 Directives, and that the rest is at least not in violation of those rules.

Because a proceeding is in compliance with an established process does not, of course, guarantee a good outcome, especially where the process has changed little while much else has evolved in dramatic fashion. Pushing a specification through Ecma and ISO/IEC JTC1 at maximum speed serves to illustrate the shortcomings of a process that is at minimum not up to the challenge of performing in so highly charged a competitive setting, nor appropriate for a specification of such great length. It also calls into question whether a quasi-governmental process involving national representation and the adoption of standards with universal impact has any business being so non-transparent, whatever the historical rationale for such secretive practices may have been.

Moreover, the progress of OOXML through the ISO/IEC JTC1 process has been rife with accounts of undue vendor pressure, and in some cases, improper vendor conduct, that in most cases appears not to be covered by any rules at all. The wide publicity that this conduct has rightly been given hardly reflects well on a system that allows such conduct to occur without consequences, nor does it help to inspire public faith in the integrity of that process, or its deliverables.

The result is that if OOXML is finally approved, it may not be of the quality that the imprimatur of the ISO/IEC is presumed to indicate, given the limited amount of time available for the BRM, the insufficient time allowed to non-National Body stakeholders to review the proposed dispositions, in advance, or to offer useful

comments of their own, and the fact that not all deficiencies may be eligible for discussion at the BRM. At the same time, if OOXML is not approved, it will provide scant vindication for the process, due to the great deal of effort and energy expended by a very large number of people to no useful purpose. If OOXML was destined to garner 3,522 comments, why did Ecma allow it to progress to ISO/IEC JTC1 at all? More importantly, what steps will be taken to ensure that a similarly lengthy and flawed specification is not "fast tracked" again?

Moreover, assuming that Microsoft is right in its opinion that the world would be a better place with OOXML as a *de jure* standard, then all concerned would have been better served – including Microsoft – had the rules required Ecma to do a more thorough job, and then allowed ISO/IEC JTC1 to proceed at a pace more suited to the length and complexity of the OOXML specification.

Perhaps most troubling is the fact that a global system that purports to represent the interests of "all stakeholders" and reserves the right to itself to define the minimum attributes of the processes that create "open standards" can operate with so little visibility and accountability to those same stakeholders.

Whatever the ultimate fate of DIS 29500 may be, the very public progress of OOXML in ISO /IEC JTC1 from beginning to end has revealed a process that is in need of serious review and revision. Hopefully that task will be undertaken soon, and performed thoroughly and well, if the traditional standards process is to remain relevant and useful to a modern world.

FEATURE ARTICLE:

ODF vs. OOXML and the Future of the Great Powers of IT

Andrew Updegrove[1]

Abstract: *Great companies, like great national powers, compete aggressively - not for territory and resources, but for customers and cash. Just as countries fall into hierarchies of power and alliances for long periods of time based upon their respective advantages at the beginning of such periods, or the outcome of wars, multinational corporations often succeed in establishing themselves in power positions that must be jealously defended. In both cases, the factors upon which dominant positions were originally established inevitably change even as their competitors become increasingly determined to supplant the incumbents. Today, the information technology (IT) marketplace may be on the verge of a fundamental reordering of its "Great Powers" as new technologies (e.g., Software as a Service) and new strategies alter the landscape upon which Microsoft's dominance has to date been based. This article examines the conflict being waged between Microsoft and its commercial rivals over document format standards, attempting to examine the underlying forces, motivations, strategies, and possible outcomes that this contentious standards war helps reveal.*

Introduction: Perhaps the most significant development in the information technology industry over the last thirty years has been the degree to which a single company – Microsoft – has succeeded in achieving dominance. During that short period of time, a startup company founded by two college dropouts attained a level of influence in software equal to that which IBM already enjoyed in hardware on the date that Microsoft was launched. With over $50 billion in revenues today, Microsoft has become by far the largest software company in the world today, and wields by far the greatest influence over the user experience on the desktop.

This enviable position has been attained in part through Microsoft's strategic role as the owner of the most popular operating system in use today (Windows) and as a result of the enormous profits it reaps from its monopoly position in office productivity software (through its Office suite, which includes the Word word processing, Excel spreadsheet, and PowerPoint spreadsheet software, among other tools). Overall, Microsoft's office software division generated almost one third of total revenues in 2007, and contributed a disproportionately high $10 billion in profits to the bottom line. The profits of this division have helped underwrite Microsoft's ongoing efforts to expand into a wide variety of other products in services, in many cases with mixed success, at best.

[1] The author is legal counsel to OASIS, the developer of ODF, and has written extensively in support of that standard. However, he had no direct involvement in the adoption of ODF, and the opinions expressed in this article are his alone. His blog entries on ODF and OOXML can be found at http://www.consortiuminfo.org/standardsblog/index.php?topic=20051116124417686

Today, however, Microsoft's hegemony is being threatened on a number of fronts, largely as a result of fundamental technical, political and societal changes in the marketplace itself. Not unlike the way in empires have historically risen, only to eventually become threatened by new forces, Microsoft is becoming increasingly vulnerable to a number of systemic changes that are undercutting the unique advantages that it has enjoyed since achieving dominance in the operating system and office suite software markets.

To extend that analogy, just as international tensions and nationalist aspirations undermined the stability of Europe in the years preceding World War I, market forces in the IT industry today are building to a point where a radical restructuring of the landscape may be at hand, leading to a rebalancing of powers after a period of commercial conflict. Those forces include the rise of new and powerful companies (like Google) that are able to deploy increasingly powerful Internet-based technologies that threaten the desktop paradigm that has provided the foundation for Microsoft's traditional strength. Older companies that are eager to find a means to challenge the entrenched market incumbent at last are willing to adopt strategies based on new technologies and business models, such as the deployment of software as a service (SaaS) to similar affect.

At the same time, accumulated resentments on the part of consumers seeking wider choices, governments seeking greater control over their archives, and even what might appropriately be called new ideologies involving "openness" in standards and software licensing terms are providing the impetus for the equivalent of a popular uprising at the level of the end user.

One of the challenges that Microsoft faces today that typifies this tense competitive landscape arises from changing customer expectations regarding the formats in which documents of all types are created. In 2005, an XML-based standard called OpenDocument Format (ODF), was approved by the Organization for the Advancement of Structured Information Standards, more commonly known as OASIS. The purpose of ODF is to enable compliant software to create text, spreadsheet, presentation documents that can be opened, edited and saved by other ODF compliant software. Later the same year, OASIS submitted ODF to ISO/IEC JTC1 for adoption, which followed in May of 2006.

Microsoft, which has been a member of OASIS since before the ODF Technical Committee was formed (and had a representative on the OASIS Board of Directors throughout most of the period during which ODF was developed) opted to neither join in the development effort, nor to implement ODF after it was approved as an OASIS standard. Instead, it developed and implemented its own XML-based format, which it called Office Open XML (OOXML). In late 2005, Microsoft submitted OOXML to Ecma, another standards body, which adopted the specification in 2006 and, as planned, submitted it for consideration by ISO/IEC JTC1, so that if approved it would enjoy equal status with ODF in the eyes of customers.

Unlike ODF, which was rapidly approved without objection, however, the progress of OOXML through ISO/IEC JTC1 has been contentious and, thus far, unsuccessful (a final decision will be made in March of 2008 following a week-long meeting in

Geneva, Switzerland to address 3522 comments registered during a five month review period in 2007). OOXML's difficulties have been based in part on its technical imperfections, end user objections and Microsoft's own at times heavy handed conduct. But the level and effectiveness of resistance to OOXML has also been fueled by the significant resources dedicated to that effort by a variety of Microsoft's competitors, and most visibly by IBM.

The conflict between the proponents of ODF, on the one hand, and of OOXML, on the other, has presented one of the most public standards wars in the history of the IT industry. In this article, I will review some of the changes in the competitive landscape that have led each side to choose open document formats as a field upon which to fight one of the first great battles that may fundamentally change the balance of powers in the IT industry.

I A Changing IT Landscape

Why has it taken so long for Microsoft's competitors to mount a serious attack against Office, and why have they decided that the time is now ripe to make the expenditure of time, resources, and strategic investment needed to make a credible assault? There are a variety of reasons, some of which are new, and some of which represent long-standing issues, and others that have only lately become more critical.

Monopoly cost/benefit ratio for the customer: Microsoft has enjoyed a more than 90% market share in operating systems supporting the desktop and in office productivity software for many years. While on its way to achieving that dominance, concerted efforts were made by many of its competitors (e.g., Apple, IBM, Digital Equipment, Sun Microsystems and many other system vendors), sometimes individually and sometimes collectively, to protect their existing businesses from erosion. Similarly, the new software developers that initially dominated the productivity software market (e.g., Software Arts, Lotus Development Corporation, and WordPerfect) eventually became marginalized by Microsoft's success in applications, based in part on the fact that it controlled access to its operating system products, as well as their release schedule.

In both cases, Microsoft's market power eventually reached a point where competing to break its monopoly position offered too little likelihood for success to justify the investment – at least during the continuance of the technological and market conditions under which Microsoft had achieved hegemony over the desktop.

For a time, conditions did remain more or less constant, and in the initial years of Microsoft's ascent, there was much for customers to gain as well. Most obviously, the existence of a *de facto* "standard" platform had many benefits. That platform comprised a matched set of microprocessor (the Intel family of microprocessors launched with the 8086) and operating system (Microsoft DOS, eventually followed by Windows), which, atypically, was made available to multiple vendors, providing the incentive for the successful launch of many independent software vendors and the rapid proliferation of new software products that added value to the ownership of a computer. With time, the availability of competitively priced and increasingly

powerful "personal computers" from scores of vendors brought the cost of owning a computer at home as well as using one at work within the reach of most families.

Moreover, up until the time when Microsoft achieved its monopoly power, new versions of Microsoft products, with new and improved features, were released on a frequent basis. Often, Microsoft would add new features at no additional cost that previously could be found only in products that had to be purchased from its competitors. Those products, not surprisingly, usually disappeared.

As competition disappeared, so too did the incentive for Microsoft to issue new releases of its products. Internet Explorer, which had gone through multiple versions while Microsoft was seeking to eliminate Netscape as a competitor, languished for almost seven years before it was next updated with a major release – and then only when Mozilla's market share topped 10%. The release cycles of both Windows and Office slowed as well, and as a result, the value proposition for the customer of participating in a monopolized marketplace decreased.

The result is that the customer now finds itself in a situation where Microsoft has the ability to maximize prices while minimizing investment in its own products, because there is no effective competition to either drive prices down, or innovation up. In such a scenario, the costs in reduced competition and innovation can begin to outweigh the value of a de facto, single-vendor controlled standard, and raises the perceived value of consensus-based standards able to break the monopoly.

Effectiveness of product evolution: While Microsoft prides itself on its software development skills and its commitment to its customers, it is not immune from the usual effects and temptations that lack of competition inevitably produces. Just as IBM was criticized in the 1980s and early 1990s for taking its customers for granted and defining quality by IBM's terms, rather than by its customers needs, Microsoft is able to decide which new features it will offer, how they should be engineered, when they should be released, and how best to craft them to Microsoft's maximum benefit from the standpoint of (among other things) maintain the lock in of its customers.

Currently, Microsoft is encountering significant market resistance from those same customers, few of which have thus far chosen to upgrade to either Vista, Microsoft's newest operating system release, or to Office 2007. Many purchasers of new computers are also requesting that the prior versions of each product be installed rather than the most current releases. Indeed, some analysts are recommending that current Office 2003 users never upgrade to either product at all. A recent example is a study just completed by Becta, the British Educational Communications and Technology Agency, which advised that "the costs of upgrading are significant, and the benefits unclear," notwithstanding the billions of dollars and thousands of years of engineering effort that Microsoft has invested in producing these new releases.

Vista and Office 2007, whether separate or apart, also require significant user training. Ironically, OpenOffice, the most popular of the ODF compliant competitors of Office, has a look and feel that is remarkably similar to Office. The result is that it should be much easier for an existing Office user to learn, and therefore cheaper

for their employer to train them, to convert to OpenOffice than to Office 2007. Moreover, OpenOffice is free, and StarOffice 8, the enhanced version sold by Sun with support, is much more inexpensive than Office.

The result is that it will be risky for Microsoft to discontinue selling either Windows XP (its availability has already been extended once) or the existing version of Office, because at least some purchasers of new computers may prefer to use OpenOffice rather than learn to use Office 2007, especially if they have previously downloaded a free copy of OpenOffice in order to open odt files received from others.

What is a "document?" Until the advent of the Internet and the Web, the concept of a document was largely unchanged from pre-IT times, although the means of producing a final, printed copy had changed, and the complexity and appearance of the final product was evolving rapidly. Because the result was a physical copy, the office suite as we know it evolved into a monolithic product, for multiple good reasons: ease and economy of purchase and installation, and the ability to update data seamlessly between related documents (e.g., text documents and embedded, or independent spreadsheets).

For the decades of the PC revolution, the result was that the computer skills of many users were largely limited to knowing how to use the single product that satisfied the great majority of their needs. Not surprisingly, they grew attached to their office suite. Basing such products on proprietary formats made the lock in complete, as it became difficult to exchange documents between different systems or to permanently migrate existing documents to a new system, without loss of fidelity.

With the rapidly expanding ways in which we now use the Internet and the Web, however, less and less of the text that an individual produces in the course of a given day are input using an office suite or standalone word processor at all, and especially so for younger users. Instead, text is typed into instant messaging windows, email, Wikis and, increasingly, software resident on mobile devices. The results are multiple:

- ***Psychological independence:*** The days when the prospect of using a word processor other than Word would provoke anxiety are over. Ordinary users find themselves regularly using new online software all the time, and are becoming increasingly comfortable with that experience.

- ***Actual independence:*** Just as many individuals are abandoning their landlines entirely, first purchasers of inexpensive computers that come preloaded with OpenOffice or Corel WordPerfect may feel no compunction to buy even an inexpensive copy of Word at all, due not only to their comfort level with alternatives, but also because they do not expect to make far less use of that software than did the end users of a decade ago.

- ***Document management:*** As more and more information is recorded through mobile devices, government and business CIOs are facing the daunting task of managing that information. The value of traditional,

desktop-produced documents is therefore declining as a percentage of the whole, and the value of being able to store, search and access data created on the fly in the most cost effective manner increases.

- ***Operating system independence:*** In the past, virtually all document creation was performed on two operating systems: Windows and Apple's current system, and Office was available on both. Now, however, Linux is predominating as the operating system of choice on mobile phones, which are becoming increasingly "smart." Initiatives such as Google's Android project will encourage significant development on these platforms, and many of these applications will be ODF based (several Google Apps already are). If the solutions created for mobile devices that are based on ODF are of higher value, then additional pressure will be exerted in some businesses to converting desktop software to ODF compliant alternatives. This year, after many false starts, Linux will also be making greater inroads on the desktop, now that more user-friendly versions, such as Ubuntu, and extremely inexpensive computers, such as those recently offered at Wal-Mart by Everex, are becoming available.

Change in competitor strategies: The objectives and strategies of Microsoft's competitors have changed in important ways:

- ***Market size:*** Microsoft acquired its dominant position at a time when vendors sought to "own" their customers, and during which the state of technology made it possible to do so. However, with the advent of the Internet, truly open systems have become not only feasible, but much more in demand by customers. They have also made it more difficult to achieve monopoly power and to maintain it. As significantly, the size of the marketplace has become larger by orders of magnitude, making the attractiveness of having a piece of the pie as attractive today as having the whole pie a decade ago. The result is that it is as attractive to open a market today through promoting open standards as it was to control it in the past through aggressively promoting closed systems. In short, the cost/benefit ratio for vendors as well as customers is beginning to shift to open systems – at least for those that are not already incumbents.

- ***Business models*:** Some of Microsoft's most powerful competitors (e.g., IBM) are changing their strategies to be much more services oriented, providing another way in which they can benefit from markets with many competing products. The usual differential between profit margins on the sale of services versus the sale of products is diminished by the decrease in R&D expense, while opportunity increases with the growth of the market available, and much of the risk rides on those still producing products upon which the services are based.

- ***The rise of open source software:*** After more than a decade of gestation, open source software (OSS) has become a trusted, pervasive reality in the marketplace. Today, it would be difficult, if not impossible, to find any enterprise of any size that does not run multiple OSS programs, and Microsoft itself has a cooperative marketing relationship with Novell in which it promotes SUSE Linux, the second most popular Linux distribution with

enterprise users after rival Red Hat. Microsoft's competitors are sharing R&D expenses with a community of developers, placing them at a competitive cost advantage. Customers are increasingly comfortable with OSS as well, regardless of whether the total cost of ownership (TCOE), after taking into account training and support, is less than the cost of comparable proprietary products.

- ***Economic strategies:*** As Microsoft's competitors have become comfortable with the goal of breaking Microsoft's monopoly without becoming monopolists themselves, they have come to an interesting realization: it can be as beneficial to give away replacements for Office as it can be to seek to outcompete Office with comparably priced competitive products. Both Google, with its free (to small users) on-line Google Docs, and IBM, with its new, free on-line Symphony office suite, are seeking to supplant Office with no, or little, immediate revenue return. Instead, they will benefit indirectly in multiple ways, with the biggest prize being the prospect of freeing up as much as possible of the IT budget dollars of large enterprise and small to medium enterprise (SME) users that currently comprise $16 billion of Microsoft's annual business software sales.

- ***Architectural models:*** After many years of discussion, increases in broadband connections, decreases in the costs of servers, and other advances have now made the provisioning of SaaS a realistic alternative to customers. This Web-based (i.e., end-user operating system-independent) architecture neutralizes much of Microsoft's traditional operating-system based advantage.

Microsoft, of course, could take advantage of the same trends and opportunities, but only at the risk of cannibalizing and/or weakening its own business. To date, it has made some forays into open source software, and has launched its own Web based services. Its historical practice, however, has been to see how the market develops, and then try and overtake the early entrants. Whether that strategy will succeed in this new industry transformation, remains to be seen.

Regardless of what Microsoft does or does not choose to do, its competitors can for the first time in more than a decade see not only the means by which Microsoft's hold might be weakened, but more ways in which they can directly and indirectly benefit. Making an investment in promoting the advance of ODF therefore makes sound business sense to a variety of vendors, some of which have been more visible in their efforts in this regard than others.

II The Catalyst for Action

In August of 1914, it was the violent act of a single individual that released the tensions that had been building in Europe for decades. The result was war. In a not totally dissimilar fashion, it was the decision of a single customer in August of 2005 that triggered a series of actions on the part of many of Microsoft's competitors, building on a history of accumulating frustrations and taking advantage of technological changes in the marketplace. The immediate result was the transformation of ODF from an almost unknown standard into the rallying point

for a small army of competitors eager to change the established order of the desktop. That customer was the government of Massachusetts.[2]

The decision taken by the CIO and the Secretary of Administration and Finance of Massachusetts was made after a full year of deliberation and consultation with vendors, including Microsoft. Although Microsoft had assumed earlier in the year that the Information Technology Division (ITD) would conclude that its OOXML formats would meet its definition of "open standards," the ITD reversed that decision over the summer. Since Microsoft had already announced that it would not implement ODF, this meant that Office could no longer be used on the more than 50,000 desktops maintained by the ITD after January of 2008, the effective date of the policy decision.

The decision was widely publicized, and caught the attention of other government CIOs. It also caught the immediate interest of Microsoft's principal competitors. Despite the later decision by Massachusetts to continue to use Office after Ecma adopted OOXML, the issue of open formats had been thrust into the spotlight, as well as the technical and commercial differences between ODF and OOXML. The result was that both the importance of open formats, as well as the credibility of ODF, had become widely known.

It is not surprising that the first large enterprise to opt for ODF was a government, although the benefits of ODF for governments are no different than for commercial or home users. The awareness and importance of those benefits for government purchasers, however, was much higher, for several reasons:

- ***Equal access and freedom of decisions:*** As governments, like all other businesses, increasingly move their operations online, the question of endorsement of proprietary solutions becomes sensitive. While a commercial entity may for its own convenience decide to accept (for example) only Word documents, or optimize its Web site only for use by visitors using Internet Explorer, citizens are becoming increasingly unhappy with governments that make similar decisions. Indeed, when certain relief sites were set up in just that way in the wake of Katrina, some survivors using Mozilla or Safari as their only browser found themselves at a potentially life-threatening disadvantage. Governments are therefore increasingly becoming committed to ensuring that no citizen should be denied equal access to government services based upon their IT choices, or forced to purchase products that have been, for all practical purposes, endorsed by government. Governments are also increasingly sensitive to the need to ensure that government services meet the highest accessibility standards as well, and for similar reasons.

- ***Long term access:*** The ability to serve citizens on line, to create and archive documents electronically, and to take advantage of the other benefits

[2] For an in depth, contemporaneous account based upon interviews with many of the direct participants, *see* Updegrove, Andrew, Massachusetts and OpenDocument: A Brave New World? ConsortiumInfo.org, Consortium Standards Bulletin, Vol. IV, No.9, September 2005, at http://www.consortiuminfo.org/bulletins/sep05.php#feature, as well as other articles to be found in the same issue.

of modern information and communications technology (ICT) is as seductive for governments as they are for private industry. Moreover, governments are now beginning to plan the process of digitizing (and destroying) their vast archives of hard copy documents, and are therefore coming to realize the ephemeral nature not only of the media upon which electronic documents are maintained, but of the formats within which they are created. Already, most government purchasers have suffered through at least one migration (most often from WordPerfect to Word), and are cognizant of the fact that, absent agreement upon open formats, documents created today may become totally unavailable in a surprisingly short period of time – much less in 100 years.

- ***"Openness" awareness:*** Many governments in Europe and elsewhere around the world (although not yet in the United States to the same extent) are becoming increasingly aware of, and partial to, adopting IT regimes that emphasize "openness" in multiple ways, including vendor independence as well as the ability to use OSS as widely as possible. The less rigid requirements of ODF, as compared to OOXML (which maps to Office in very great detail) are therefore more philosophically attractive to such governments, especially as ODF has already been implemented by many OSS as well as proprietary office suite products.

- ***Antitrust concerns:*** Although the federal and state regulators in the United States have largely backed off of Microsoft in recent years, some governments abroad, and particularly in the EU, continue to keep Microsoft under active, and even increasing scrutiny. Indeed, one reason that Microsoft has publicly given for opening up OOXML is in order to satisfy EU regulators.[3] Independent of actual violations of antitrust laws, agencies and individual legislators in some countries continue to have a less friendly attitude towards Microsoft than towards some of its competitors.

- ***Emerging and third world countries:*** A number of nations find ODF compliant software attractive purely on price terms. OpenOffice, the most advanced of the free, open source software (OSS) office suites that are compliant with ODF, has enjoyed particular success, with over 100 million copies downloaded from OpenOffice.org as of September 2007. When used in connection with the free Linux operating system, the cost savings are even more dramatic, bringing increasing price pressure on Microsoft to gain as well as keep such customers. In China, Microsoft has dropped the license fees for a basic Windows/Office package for students to an astonishing $3 per desktop. The launch of the "One Laptop per Child" (OLPC) program, which uses OSS exclusively in order to provide an innovative, child-friendly laptop for only US $188, has invoked an aggressive marketing program by Intel directed at selling inexpensive, Windows based laptops to students in emerging countries. Presumably, Intel has driven a hard bargain on the operating system for its own, under $400 "classmate" laptop.

[3] As it happens, unsuccessfully. As discussed later in this article, the European Commission announced on January 14, 2008 that it was launching two new investigations into Microsoft's conduct, one involving its OOXML-based efforts to impede interoperability between Office and competing products.

III OOXML's Prospects in ISO/IEC JTC1

After the initial decision in Massachusetts, Microsoft opted to push its OOXML specification through the standards adoption process at the maximum speed possible, in an effort to neutralize the impact of the anticipated adoption of ODF by SC 34, the ISO/IEC JTC1 committee with authority over standards of this type. Microsoft also decided to document OOXML in great detail, with the intention of describing all formatting aspects of Office-generated documents. However, the final result included many features deemed to be objectionable by reviewers when OOXML became publicly available, including dependencies on other Microsoft technology not described in the specification. In some cases, OOXML also replicated Microsoft-unique features that did not conform to existing ISO/IEC standards, as well as at least one ancient "bug" that had long existed in Office, replication of which would be required in order to comply fully with OOXML.

The first step chosen by Microsoft was to offer OOXML to Ecma, a European-based standards organization with a limited membership and a special relationship with ISO/IEC (Ecma is the sole entity that enjoys "Class A Liaison" status with ISO). Ecma agreed to produce a specification that was faithful to the architecture that Microsoft was using as the basis for Office 2007, and commissioned a Technical Committee with the following Scope:

> The goal of the Technical Committee is to produce a formal standard for office productivity applications within the Ecma International standards process which is fully compatible with the Office Open XML Formats. The aim is to enable the implementation of the Office Open XML Formats by a wide set of tools and platforms in order to foster interoperability across office productivity applications and with line-of-business systems. The Technical Committee will also be responsible for the ongoing maintenance and evolution of the standard.[emphasis added][4]

The new Technical Committee was also charged with five objectives, two of which were as follows:

> 1. Guarantee continuous use of the existing base of Microsoft Office documents without losing any of the functionalities [The page now reads:
>
> 2. Document all the options, properties, formatting, layout and other information of the existing Microsoft Office document base using the W3C XML 1.0 language[5]

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[4] Ecma International, TC45 – Office Open XML Formats Technical Committee page, at http://www.ecma-international.org/memento/TC45.htm, accessed January 16, 2008.

[5] The text as quoted is in the form that originally appeared at the Ecma TC45 page. The current text states the first objective in different form, and no longer displays the second, and can be viewed at http://www.ecma-international.org/memento/TC45.htm, accessed January 16, 2008

After reformatting, the specification submitted by Microsoft was over 6,000 pages in length. It was adopted in that form by Ecma, and then submitted to ISO/IEC JTC1 for "Fast Track" consideration and adoption.

OOXML failed to be approved at the end of a contentious process, in part because a large number of the 3,522 comments submitted could have been avoided through greater care in documenting the specification, greater willingness by Microsoft to implement existing ISO/IEC standards when it designed Office, and greater willingness to make technical concessions at the outset that would be inconvenient for Microsoft to implement. During the ISO/IEC review period, events were closely watched by open source and open standards supporters, who reported instances of alleged irregularities in a number of National Bodies. In one case, Microsoft admitted that one of its employees had offered marketing incentives to business partners that agreed to join the Swedish committee and vote in favor of OOXML. The Swedish vote was eventually thrown out by its chair, due to the fact that at least one member of the committee cast more than one vote.

These reports and the failure of OOXML to be approved at the end of the normal review period earned negative publicity for Microsoft, as well as the ill will of some participants in the National Body processes in many countries. ODF, on the other hand, received an additional seven months to enjoy its status as an already-approved global standard. At the same time, however, members of some National Bodies complained that they had received too much attention from opponents of OOXML as well as proponents of that specification.[6]

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[6] This pressure began to be felt even before the OOXML review process began, leading South Africa to call for action. The following is the verbatim text of National Body Contribution ISO/IEC JTC 1 N 8494, titled South Africa Comments on the PAS Process, and dated February 2, 2007:

> South Africa is concerned about what seems to be a growing number of standards submitted under the PAS process that, although publically [sic] available, do not seem to have any measure of regional or even national consensus. These therefore tend not to have been referred to any of the JTC 1 sub-committees, and have obviously not been discussed at [sub-committee] level.
>
> Our experience is that the result of this is then a round of intense lobbying by various other stakeholders for us to vote negatively on the PAS. Often these other groups take the trouble to compile a list of contradictions that are also widely distributed in order to justify the request for the negative vote.
>
> A recent example is the proposed PAS on Open XML/ODF.
>
> It is our opinion that the submission of such "standards" directly to JTC 1 via the PAS route, where the standard has not been discussed within the relevant SC, was never the intention of the PAS System. The fact that some consortium has published a document that they refer to as a standard does not automatically imply that it has any sort of widespread industry acceptance. The fact that the publisher might claim international usage or acceptance is not longer a valid reason in these days of large multinationals, and the SABS [South African Bureau of Standards] has previously been approached by local branches of multinationals to vote in support of such PAS submissions, even if we have no local industry involvement or membership in the appropriate JTC 1 SC.
>
> As result of this, South Africa will tend to vote negatively on all future PAS submissions to JTC 1 where they have not been appropriate SC. We would like to ensure that proper consideration

Between the time that the Fast Track voting period closed on September 2 and today, Ecma has been working with Microsoft to develop a proposed resolution for each comment registered during the Fast Track period. On February 25 – 29 of this year, a Ballot Resolution Meeting (BRM) will be held in Geneva, Switzerland, at which delegations of eligible National Bodies will consider the "dispositions" proposed.

As summarized by Alex Brown, the Convenor appointed to manage the BRM,[7] those resolutions will largely fall into three categories:

- Straightforward acceptance (everyone agrees on the comment, its NB-proposed remedy is adopted as is);
- Modified acceptance (the gist of the comment is accepted, the proposed response differs from that originally suggested);
- Non-acceptance/non-response (the comment is not accepted).

Brown hopes to expedite the process by submitting non-controversial dispositions for adoption in batches, where resolutions are expected to be non-controversial. However, delegates at the BRM will not have had a great deal of time to review some of the proposed resolutions; although batches of dispositions have been periodically posted to a password-protected website since December (each disposition, however, is a separate PDF file), a composite report of all proposed dispositions was not made available to the BRM delegates until January 14, 2008.

After the BRM's work is completed, the eligible National Bodies will have one month to confirm or change their prior votes (any vote, whether to approve, withhold approval or abstain, can be changed to either of the other two alternatives). If the final count meets the complicated test used by JTC1,[8] then OOXML will become a global standard with equal status to ODF. Whether or not that will happen will depend in part upon the following variables:

- ***Concessions generally:*** First and foremost will be to what extent Microsoft is perceived to have accommodated the comments that have been registered. If Microsoft appears to have made a good faith effort to make changes that it will presumably implement in Office 2007, and especially

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be given to the PAS by technical experts. If the standard is indeed well known within the industry then this process might be very short.

This will be a change from our previous tendency to 'abstain' where we had no direct knowledge of the submission.

See Updegrove, South Africa and the PAS Process: A Plague o' Both Your Standards, The Standards Blog, February 20, 2007, at http://www.consortiuminfo.org/standardsblog/article.php?story=20070218154733420& South Africa kept its promise, and later voted against adoption of OOXML.

[7] Brown, Alex, OOXML: DIS 29500 Ballot Resolution Meeting (BRM) Approaches, There is no end, but addition (Blog), January 7, 2008, at http://www.adjb.net/index.php?entry=entry080107-183411 accessed January 13, 2008.

[8] An explanation of the voting process may be found at Updegrove, Andrew, The ISO/IEC Voting Process on OOXML Explained (and What Happens Next), ConsortiumInfo.org, The Standards Blog, August 31, 2007, at http://www.consortiuminfo.org/standardsblog/article.php?story=2007083115180041 accessed January 13, 008.

changes that will take real effort on its part to implement, then much of the unhappiness generated by its tactics during the Fast Track review period may be offset.

- ***Specific concessions:*** Individual comments were registered by individual National Bodies. And while many National Bodies made similar comments, whether or not the specific changes requested by any one National Body have been accommodated to its satisfaction will have bearing on its final decision regarding approval.

- ***Conduct:*** During the Fast Track process, which involved multiple meetings in many countries and an influx of many new participants, a great deal of information reached blogs and journalists. Since the end of the review period, however, any lobbying activities of Microsoft, on the one hand, and the opponents of OOXML, on the other hand, has occurred largely behind the scenes, and little information has reached the public thus far. Accordingly, whether the 120 delegates (minus Ecma representatives) that are admitted to the BRM will be feeling friendly to Microsoft and OOXML or the opposite is unknown, but may be significant, depending upon how the contestants have comported themselves in the previous several months.

- ***Events at the BRM:*** What happens behind the closed doors may also remain largely unknown, as no reporters will be admitted and no transcript will be made available to the public. Because according to Alex Brown the BRM cannot be extended, one of the most important questions will be whether it will be possible for all significant comments to be successfully resolved during the week permitted for that process. If this does not occur, then open issues may remain that may lead some National Bodies to withhold approval that might otherwise have been granted.

Will OOXML be approved? As of this writing, none of the directly involved participants that this author has contacted has a prediction in which s/he has confidence, and indeed with the proposed dispositions being made available so recently to the BRM delegates, any such predictions would be premature. Alex Brown offered the following assessment in a blog entry he wrote on December 15, 2007, during the return flight from Kyoto, where the last SC34 meeting prior to the BRM was held:

> No neutral observer is being so foolish as to predict what will happen – on the long flight home I was pondering this and found (possibly as a result of too much in-flight Sake) a Haiku coming to mind which seemed to sum this up:
>
> *Six thousand pages,*
> *And five days in Geneva;*
> *Maybe it will pass.*[9]

Moreover, events are continuing to evolve rapidly as this article is being written. In the first week of January, journalists learned that Microsoft engineers had issued a

[9] Brown, Alex, Back from Kyoto, There is no end but addition, December 15, 2007, at http://www.adjb.net/index.php?entry=entry071215-123604, accessed January 15, 2008.

"service pack" to the users of Office 2003, the product it hopes to replace with Office 2007. Users that dutifully updated their software found that the service pack had intentionally disabled their ability to open documents created by a wide variety of older document suites – including some prior versions of Office - due to "security concerns." The news was surprising, in light of the fact that Microsoft's major rationale for proposing OOXML rather than adopting ODF was because of the necessity of preserving access to, and the fidelity of, the "billions and billions" of documents already created by its customers using older versions of Office. A workaround solution proposed by Microsoft was extremely complex, and if performed incorrectly could render a PC unusable. Instead, Microsoft recommended a simple solution – upgrade to Office 2007.[10]

On January 14, the European Commission announced that it was launching two new antitrust investigations into Microsoft's conduct, only a few month's after Microsoft settled a nine year dispute after losing an appeal in the European Court of First Instance. One investigation was in response to a 2006 complaint brought by the European Committee for Interoperable Systems (ECIS), an organization that includes Microsoft competitors such as IBM, Sun, and Oracle as members. That investigation will look into whether Microsoft's actions in relation to OOXML are intended to preserve its dominant market position. A press release issued by the regulators reads in part as follows:

> As regards interoperability, in its Microsoft judgment of 17 September 2007, the Court of First Instance confirmed the principles that must be respected by dominant companies as regards interoperability disclosures. In the complaint by ECIS, Microsoft is alleged to have illegally refused to disclose interoperability information across a broad range of products, including information related to its Office suite, a number of its server products, and also in relation to the so called .NET Framework. The Commission's examination will therefore focus on all these areas, including the question whether Microsoft's new file format Office Open XML, as implemented in Office, is sufficiently interoperable with competitors' products.[11]

It was later the same day that Ecma announced that it had made the Proposed Disposition of Comments document available to National Body representatives – and also that the document is 2,300 pages long – more than one third the length of the OOXML specification itself. As Eric Lai, a journalist who has followed the ODF-

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[10] See the links to multiple articles collected at Updegrove, At a Loss for Words, ConsortiumInfo.org, The Standards Blog, January 3, 2008, at http://www.consortiuminfo.org/standardsblog/article.php?story=20080103134307872 accessed January 15, 2008. As some ODF proponents noted with amusement, an easier (and free) alternative is simply to download a copy of OpenOffice, which can not only open the old formats in question, but export them again in Word .doc form.

[11] European Commission, Antitrust: Commission initiates formal investigations against Microsoft in two cases of suspected abuse of dominant market position, January 14, 2008, Reference: MEMO/08/19, at http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/19&format=HTML&aged=0&language=EN&guiLanguage=en accessed January 15, 2008. See also Updegrove, EU Opens Two New Investigations Against Microsoft – One Involving OOXML, ConsortiumInfo.org, The Standards Blog, January 14, 2008, at http://www.consortiuminfo.org/standardsblog/article.php?story=20080114105017559, accessed January 15, 2008.

OOXML story from its beginning, wryly noted, "by comparison, the Concise Oxford English Dictionary runs 1,681 pages."[12]

All of these ongoing developments will provide a rich backdrop for the secret deliberations of the BRM delegations as they meet behind closed doors in Geneva one month from now. After all of the theatrics, press releases, newly launched investigations and spin, the delegates will at last begin to discuss whether Microsoft has moved far enough to gain their approval, how well conceived the proposed dispositions are – and whether the delegates have had time to digest all 2,300 pages of proposals in time to debate them at all.

IV The Future of ODF and OOXML

As might be assumed from the factors reviewed earlier in this article, the future prospects of OOXML and ODF are not likely to be markedly different, regardless of whether OOXML is or is not adopted by ISO/IEC JTC1. This is not only because formal approval by JTC1 will only be of real significance to a fairly small subset (primarily governments) of all customers, but also because the forces that inspired Microsoft's competitors to so actively promote ODF will remain.

That said, the progress of ODF, and then OOXML, through the standards process has served well to bring public attention to the importance of open document formats in general, and to the differences between ODF and OOXML, both technically and strategically, in particular. The success of ODF to date has also forced Microsoft to provide far more visibility into its formats than would otherwise have been the case, and the first reports of changes agreed to in the Disposition of Comments document also suggest that Microsoft has made a number of compromises that it would not otherwise have been likely to have offered.

Forces of Change: While predictions in a situation such as this are not apt to be of highly reliable, here are some of the factors that I believe will affect the ultimate future of these two standards in the marketplace:

The other XML standard: While ODF and OOXML have been competing in the west, China has been developing its own XML-based open document standard in the east. That standard, called Uniform Open Document Format, or UOF, has been under development since 2003, and was adopted by China as a national standard last year. UOF is protected by seven patents,[13] and vendors will need to pay an as-yet to be disclosed royalty to implement it. China has been guarded in its discussions with both ODF and OOXML proponents, although discussions are ongoing with each. Microsoft has launched an open source project at Sourceforge to develop a converter, similar to an earlier project it launched at the same site to develop an ODF-OOXML converter. At minimum, China can be expected to continue to use its UOF standard as a powerful bargaining chip with Microsoft regarding pricing and licensing terms for Office distribution in the P.R.C.

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[12] Lai, Eric, Ecma makes Open XML changes in bid to swing ISO votes, ComputerWorld.com, January 14, 2008, at http://www.computerworld.com/action/article.do?command=viewArticleBasic&articleId=9057238 accessed January 15, 2008.

[13] Personal communication to the author of a member of the Chinese working group that developed UOF.

SaaS: While "renting" software on the Internet has been promoted as a business model for years, its time appears to have finally arrived. This is a result of a number of factors, from the spread of broadband access to the commitment of major vendors like IBM and Google to SaaS as both a business model as well as a strategic weapon. As more and more documents become created on line rather than using Office, the legacy power of Office will weaken, and especially so if most of these documents are based upon ODF than OOXML. Currently, both Google Docs and IBM's Symphony support ODF.

The prospect of a multi-platform world: As earlier noted, during the first decades of the IT age, the value of a single hardware/software platform was so great that other vendors were willing to embrace the "WinTel" platform, and end users were willing to live with an environment controlled by a single vendor. Today, however, many things have changed: users have become more sophisticated, open source software has become more pervasive, respected vendors are reentering the operating system (via Linux) and office suite marketplaces, governments have become less comfortable with the concept of requiring their citizens to use a single environment, and – most importantly – open standards offer a path to true cross-platform and cross-product interoperability. The result is that to many end-users, the benefits of a single-vendor environment no longer seem to outweigh the loss of alternative products, innovation and price competition that a multi-vendor environment can provide. The Becta report makes particularly fascinating reading in this regard, due to its determination to provide the British educational system with more vendor competition and students with the ability to "round trip" documents between home and school, as well as to ensure that "free to use" software is included as an option for such use.

Antitrust investigations: At least initially, Microsoft is being conciliatory in its response to the new EU probes, stating publicly that it is "committed to ensuring" that it is fully compliant with European law and the ruling handed down in September by the European Court of First Instance. Microsoft had promised to vigorously contest the earlier EU action, and followed through on that promise for nine years. Microsoft's business thrived as a result of that approach, more than offsetting fines in excess of 1 billion Euros that were levied against it. But as the SaaS model and other forces increasingly threaten its historical business models, it may at some point conclude that its traditional strategy of using typing arrangements between its operating systems and its applications software may no longer make economic sense.

Emerging Markets: While Microsoft claims an installed base of 500 million Office customers, *billions* of new computer users will link to the Internet in the next decade. None of those users has legacy documents, and many, if not most, of them will use a mobile device as their first computer. The software that is loaded on those devices when they are delivered will therefore have an impact on the future product affinities of their users. Just as Microsoft was able to swiftly wipe out the initially dominant Netscape browser simply by bundling Internet Explorer, for free, in the first computers that most users owned, mobile device vendors and telecommunications providers will have great influence over how the documents of the future are created. With increasing price competition and the fact that most such devices are now based on Linux, Microsoft will at minimum need to cut prices deeply to make its products viable on such devices. It may be that the profit to be

made on mobile texting software may not be sufficient to justify proprietary solutions at all.

The Linux desktop: Prices are also working against Microsoft on the desktop, as Everex and other vendors are now selling Linux-based PCs for $400 or less. For purchasers seeking bargain boxes, a free copy of OpenOffice is likely to be far more appealing than even the cheapest version of Office. Third world buyers will be likely to be similarly price conscious, whether buying Linux-based or Windows based systems.

Possible outcomes: In the long term, there are several possible outcomes:

1. ODF fades away. Given the rather startling success of ODF in a short period of time,[14] this seems unlikely, but remains a possibility, especially if OOXML is adopted by ISO/IEC JTC1, allowing Microsoft to provide a more convincing business case to its government customers to continue to use Office.

Result: If the government market is lost, ODF will lose some of its economic viability. In that event, it may remain primarily the darling of open source projects, with Microsoft's major competitors seeking other means to erode Microsoft's market share.

2. OOXML plays the dominant role in a multi-revisable format marketplace, due to the ongoing effect of Microsoft's historically dominant role. ODF continues to be used in a variety of products, especially those used on-line, those that are free, and those targeted at government customers.

Result: In this scenario, the developers of ODF-based products would go to great lengths to ensure their ability to open and save Office documents without loss of fidelity, as well as to satisfactorily re-export them in OOXML formats. Early reports of the Ecma disposition document indicate that more interoperability information will be supplied in any final version of OOXML, and the news of the new EU investigation may provide added pressure to improve the ability of ODF-compliant products to "round trip" documents with Office 2007.

3. Use of ODF continues to gain ground as ODF-compliant products follow a trajectory similar to Mozilla Firefox, which continues to gain market share at the expense of Internet Explorer. This outcome would be likely to occur in Europe and emerging countries if the strong community support behind ODF continues to grow, and if the outlook expressed by the Becta report becomes widely adopted.

Result: Microsoft would find itself under increasing pressure from its own customers to improve their ability to trade documents between Office and ODF-compliant products. While this could occur through Microsoft natively supporting ODF – as Office 2007 does with every other format in common use today - Microsoft may find it wiser to propose that ODF and OOXML (and, ideally, UOF as

[14] For a summary of ODF successes during the end of 2007, see the ODF Annual Report 2007 issued by the ODF Alliance, at http://www.odfalliance.org/resources/AnnualReport2007.pdf

well) be "merged" into a single format, which would allow it to assert greater influence over the future development of that standard.

4. ODF becomes dominant in the marketplace without merging with OOXML. It is hard to imagine this being the near term outcome. However, the future of SaaS introduces a significant wildcard into the equation. If Microsoft miscalculates spectacularly in devising its business strategy, or suffers a monumental loss in an antitrust action, it might have no choice but to convert to ODF at some point in the future.

Result: Microsoft would need to compete in the office suite marketplace in a way that it has not faced in many years.

V Conclusions

The unexpected success of ODF in the marketplace is a symptom of fundamental shifts in a maturing IT ecosystem, characterized by increasingly sophisticated and demanding end users, resurgent competition, new enabling technologies, and other forces that are largely beyond Microsoft's control.

History teaches that monopolies in the marketplace, like empires in the broader world, are rarely sustainable over long periods of time, and ultimately fall victim to both external attack and internal weaknesses. The degree to which Microsoft's competitors have embraced, and many Microsoft customers and national governments alike have resonated, with ODF are strong indications that the foundations upon which Microsoft's historical dominance has been based may at last be weakening.

ODF is not in itself likely to topple Microsoft from its enviable throne. But the very public example of ODF, as played out in public view, has brought new attention to the value that true competition in the marketplace can offer, as well as to the fact that life without a single "de facto" standard might be not only conceivable, but desirable. When conjoined with the equally forceful currents of open source software and SaaS, Microsoft will be likely to face increasingly frequent challenges in the future from ever more determined competitors, similar to that posed by ODF.

The ODF experience therefore offers not only a successful model upon which Microsoft's competitors will likely base other strategic initiatives in the future, but also a business case that will be studied in business schools, and by economists, for many years to come.

STANDARDS BLOG:

ODF vs. OOXML: War of the Words (an eBook in Process)

Andrew Updegrove

Date: November 25, 2007
Views: 5,682

For some time I've been considering writing a book about what has become a standards war of truly epic proportions. I refer, of course, to the ongoing, ever expanding, still escalating conflict between ODF and OOXML, a battle that is playing out across five continents and in both the halls of government and the marketplace alike. And, needless to say, at countless blogs and news sites all the Web over as well.

Arrayed on one side or the other, either in the forefront of battle or behind the scenes, are most of the major IT vendors of our time. And at the center of the conflict is Microsoft, the most successful software vendor of all time, faced with the first significant challenge ever to one of its core businesses and profit centers – its flagship Office productivity suite.

The story has other notable features as well: ODF is the first IT standard to be taken up as a popular cause, and also represents the first "cross over" standards issue that has attracted the broad support of the open source community. Then there are the societal dimensions: open formats are needed to safeguard our culture and our history from oblivion. And when implemented in open source software and deployed on Linux-based systems (not to mention One Laptop Per Child computers), the benefits and opportunities of IT become more available to those throughout the third world.

There is little question, I think, that regardless of where and how this saga ends, it will be studied in business schools and by economists for decades to come. What they will conclude will depend in part upon the materials we leave behind for them to examine. That's one of the reasons I'm launching this effort now, as a publicly posted eBook in progress, rather than waiting until some indefinite point in the future when the players in this drama have been colored by the passage of time and the influence of later events.

My hope is that those of you who have played or are now playing a part in the ODF vs. OOXML story will supplement or correct what I'm writing by sharing your facts and insights, either by posting your comments publicly at this blog, or by contacting me privately me via email. My goal will be to present what happened as completely, accurately and readably as I can, so I hope that those on both sides of the fence will work with me. In all cases, I will try and fairly incorporate what you offer into the whole.

My second goal is to help those that have come to this story late in the day – halfway through the movie, as it were - learn what happened prior to when you entered the theater. That way, you'll be better able to put current events into context as they happen, understand the cast of characters more fully as they continue to play their parts, and above all, appreciate the nuances of the still unfolding plot.

So without further ado, here is the first chapter of a book whose total length will be determined by events yet to unfold, whose ultimate print publisher is yet to be found, and which for now bears the working title of "War of the Words."

Chapter 1: Out of Nowhere

On September 1, 2005, a New York-based writer for the London *Financial Times* named Richard Waters wrote a brief article, posting it to the Web via FT.com's San Francisco office. The seemingly unremarkable subject of the piece was the release of a new draft of a procurement guideline by the Information Technology Division (ITD) of the Commonwealth of Massachusetts' procurement of new technology. Some of the data points in the article were wide of the mark (he referred to Massachusetts as "one of the most populous states in the US" for example), but this was fitting for a story that would circle the world for years to come, as often as not unencumbered by facts inconsistent with the spin *du jour*.

What elevated the story from a space filler in the business section to a hot property was the news that the ITD planned to banish Microsoft's Office software suite from 50,000 government computers. If the ITD had its way, 28 Executive Agencies would no longer use Word to create documents, Excel to plot spreadsheets, or PowerPoint to craft presentations. Instead, government employees would be required to use software that saved documents in "open formats" - which Office did not, according to the ITD's definition. Moreover, Microsoft claimed that it had been taken by surprise by the decision (a claim the ITD later denied); Waters rubbed salt in the wound by describing the event as "one of the most significant setbacks" for Microsoft in the US market.

Only the FT.com site carried the story at first. But word of the defection of this large Microsoft customer spread quickly via the Internet, in large part because of the abundance of blogs and amateur news sites that focus on technology stories, but also because so many of the people who write for and visit these sites are hostile to Microsoft. Soon, visitors with strange on-line aliases like *SpaceLifeForm*, *Sammy the Snake* and *Cybervegan* were posting gleeful comments at the expense of the software vendor, and trying to learn more about what "open formats" might be, and why they were so important.

The decision makers in Massachusetts were Peter Quinn, the state's Chief Information Officer (CIO), and his boss, Secretary of Administration and Finance Eric Kriss. There were good reasons why they wanted to convert to software capable of saving documents using open formats. One was so that citizens could exchange documents with the State no matter what software they chose to use. As things currently stood, someone in Massachusetts would need to invest in a copy of

Office before it could download a document electronically from a state government site.

But an even more important motivation arose from the fact that Massachusetts, like governments everywhere, was rapidly moving towards a future where public records in paper form would cease to exist. Soon, government archives would exclusively comprise documents in electronic form, stored in vast banks of servers or on magnetic media. After thousands of years, traditional hard copy documents were destined to follow the path earlier taken by musical recordings, which in the course of a hundred years had already passed from wax, to vinyl, to tape, to optical disk media, eventually to slip the surly bonds of discrete physical storage media entirely and be reborn as electronic files. These files were recorded in formats of their own, with interesting names like **Ogg Vorbis**, or more prosaic ones, like **MP3** (both open formats), as well as the proprietary formats that Apple uses to create its popular iTunes.

Each time one of these new storage formats (physical and then virtual) had came along, the old one became obsolete. Within a matter of years, new music couldn't be purchased in the old format at all. Anyone that wanted to upgrade their equipment while preserving their existing investment in the old format needed to keep their old player in good repair, or else laboriously transfer their old albums, song by song, to the new format, losing fidelity in the process. Once word processors, each using a proprietary format (Word, WordPerfect and so on), replaced typewriters governments, businesses and individuals faced a repeat of the same experience. Most had already faced at least one such conversion, typically moving from WordPerfect to Microsoft's Office, after the latter product became dominant in the marketplace.

Governments that now wished to digitize the millions of hard copy documents lying in their archives faced a far greater challenge due to the sheer size of the task. And they also felt a greater responsibility as well. Simply put, Massachusetts wanted to be sure that in five, ten or a hundred years it would be able to access those digitized documents using whatever equipment was then available, rather than having to dust off the equivalent of an eight track tape player – if it could find one.

Waters may have used a bit of hyperbole to inflate the commercial importance of Massachusetts in his Financial Times article, but his calibration of the threat that the Massachusetts decision presented to Microsoft was right on the money. Indeed, Microsoft was already deploying its considerable resources to take all actions necessary to bring about a reversal of the ITD's decision, if at all possible, and to blunt the market impact of the decision otherwise.

The reason lay not so much in the potential loss of revenue from this large customer, but in the dramatic increase in credibility that the announcement gave to the importance of open formats. Microsoft owned more than 90% of the global marketplace for office suite software, and had worked long and hard to achieve that enviable position. Some 400 million customers used Office, and it wasn't likely that Microsoft would lose them, so long as software utilized "closed" formats controlled by individual vendors. While that state of affairs continued, most customers would

remain trapped by the billions of documents they had already created. Opening, converting and resaving those documents using the software of any other vendor would be difficult, time consuming and expensive. In the words of economists, these customers were safely "locked in."

But now an open format standard was available that promised to liberate users from lock in to Office for life. And a high-profile customer had announced that it was leaving the pack to adopt it. For the first time, there was a breach in Microsoft's outer defenses. In response, the vendor was marshalling all of the forces at its disposal to contain the threat before it could spread.

Next installment: *Products, Innovation and Market Share*

Read all chapters of *War of the Words* at:
http://www.consortiuminfo.org/standardsblog/index.php?topic=20071125145019553

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#52 How to Challenge a Virtual Brontosaurus

Andrew Updegrove

The World Wide Web has now left its first decade of existence well behind it, with the result that untold thousands of stabs in the virtual dark have been attempted. Most failed after consuming billions of dollars of venture capital. Out of those wildly disparate ventures (remember pet food on the Internet?), only a surprisingly small number of business models, social sites, and the like found traction, each emulated to a greater or lesser extent by countless imitators. In most cases, only one or a few of ultimately rose to the top.

Indeed, during these heady times it seemed the highly evolved ecosystem of bricks and morter commerce and human society had been annihilated by a technological meteor, opening up endless niches that could be populated by new, nimble on-line ventures and social spaces, each engaged in a frantic, Darwinian struggle rivaling the real-world competition that followed the Pre-Cambrian Extinction.

In due and rapid course, this fast-forwarding evolutionary process determined the virtual phyla that would be the survivors in the post-impact world – a process accelerated by a sudden, adverse economic change that ensured that only the very fittest would survive. After that shakeout, the New World order had been established, with some species very much at the top of the food chain: on line auctions (eBay) proved to be Boffo at the Internet boxoffice, as were book sellers (Amazon - after a prodigious outflow of investor dollars). So also cut-rate stock brokers (eTrade), illegal wagering (R.I.P. – not every species that flourishes at first sustains when the environment changes), and, of course, that modern-day Tyrannosaurus Rex of the Web – Search (Google).

Vegetarians, of course, also rebounded. Community sites sprang up like toad stools, large (Craigslist - slightly carniverous, actually) and small (countless open source projects, many flourishing at Sourceforge – the virtual world has islands with their own unique ecosystems, allowing species to flourish locally). With time, there also evolved a mighty Brontosaurus (a/k/a the Wikipedia), which flourishes, in various sizes, throughout the world and continues to extend its range.

Today it seems that all of the available niches are full, or nearly so, with each niche characteristically dominated by one Alpha species. Only at greater and greater intervals is a new phylum of Web-based potential discovered (when, after all, did the last YouTube explode?)

As a result, the glorious days of opportunity are largely ended – at least until the next technology-based meteor strikes.

Or so it would seem, until we take another evolutionary force into account: symbiosis, conjoined with a bit of incubation, perhaps, to protect the new species from the brutal realities of the real world until it has gained some strength. With a little help from an already dominant species, there may still be a way for a new contender species to grow and challenge the Internet incumbents after all.

Google, it appears, thinks that this may be the case, and it's willing to find out by challenging the Brontosaurus.

It all began with an inconspicuous **announcement** posted at the Google Web site on December 13, 2007, in which Google revealed that it was launching a non-public Beta of its own collaborative on-line encyclopedia project. The project would not, however, be simply a clone of the Wikipedia: significant differences would include single-author control for each entry, freedom for other authors to set up competing pages, bylines for page authors, reader ranking, and - oh yes - Google ads. That's where the symbiosis comes in: authors that wish to permit ads to be displayed at their Knols (GoogleSpeak for "a unit of knowledge") will be entitled to receive a "substantial" share of the resulting revenues.

Here's how Google introduced the concept:

The web contains an enormous amount of information, and Google has helped to make that information more easily accessible by providing pretty good search facilities. But not everything is written nor is everything well organized to make it easily discoverable. There are millions of people who possess useful knowledge that they would love to share, and there are billions of people who can benefit from it. We believe that many do not share that knowledge today simply because it is not easy enough to do that. The challenge posed to us by Larry, Sergey and Eric was to find a way to help people share their knowledge. This is our main goal.

The question is how successfully the Knol project will compete with the Wikipedia, both in attracting author input as well as readers.

And, of course, how it will compete in quality, a concern that Google may share, given that it has decided to incubate its fledgling competitor out of sight for now. According to an article published in the **New York Times** two days after the Google announcement, it is possible that the Knol project may never leave the nest, if early results are not encouraging. During the first phase, page authors will be admitted by invitation only - a smart move, as it will not only get the project off to a high quality start, but will also appeal to the egos of other authors that want to join an at least initially exclusive club.

That said, the sample Knol included in the announcement struck me as being rather intimidating for potential authors - and perhaps deliberately so, to discourage people from setting up anything less than a print encyclopedia style and quality entry. Whether Google has aimed too high in doing so will remain to be seen. That said, Google's announcement says that it will not exercise any editorial control over individual topic entries, and, as a result, "we cannot expect that all of them will be of high quality."

Google describes the roll out as follows:

Earlier this week, we started inviting a selected group of people to try a new, free tool that we are calling "knol"…. Our goal is to encourage people who know a particular subject to write an authoritative article about it. The tool is still in development and this is just the first phase of testing. For now, using it is by invitation only. But we wanted to share with everyone the basic premises and goals behind this project.

The less rigid approach adopted by Google for the project is what I find to be most intriguing. In effect, the Knol platform resembles like Sourceforge more than the Wikipedia, since the tools provided will allow different, variously open cultures to evolve under specific topics, with some authors insisting on maintaining total control of their topic, and others acting as project managers, guiding the process in a manner more like an open source project. In short, the Knol project will be another island where new evolutionary experiments can play out. Here's how Google described this freedom:

Knols will include strong community tools. People will be able to submit comments, questions, edits, additional content, and so on. Anyone will be able to rate a knol or write a review of it. Knols will also include references and links to additional information. At the discretion of the author, a knol may include ads. If an author chooses to include ads, Google will provide the author with substantial revenue share from the proceeds of those ads.

Not only different models of collaboration would be possible, but different types of presentations and areas of focus, making the Knol a less uniform, but more interesting browse, at least in its pioneer phase; over time, a more uniform approach might organically evolve. Or, who knows, perhaps not - perhaps the island of the Knol might become more like a library than an encyclopedia, which could be very exciting indeed.

Assuminig that the Knol project is release from the incubator and the public is invited to participate, it will be quite interesting to see which pages become most popular when there are duplicates - the page written by (for example) a college professor including exclusively her own content, or a competing page constructed and constantly updated through a more Wikipedian process? The strictly objective essay, or the edgy, screenshot reflection of the sensibilities of the moment?

All that aside, the question remains: if Google gives a Knol, will authors in fact come?

Notwithstanding its huge success, it's worth noting that a comparatively small number of people out of the more than a billion potential authors with Internet access actually contribute the great majority of the Wikipedia's content. Still, it has been able to achieve an enormous breadth of articles, each striving for an objective presentation, based upon available third party material. Google evidently hopes that it's model will appeal to enough subject matter experts to compete, thereby populating an encyclopedia with thousands of entries.

Will that happen? In fact, I'm rather doubtful. The success of community-based projects has to date seemingly relied on a delicate, and thus far only partially understood set of dynamics. The factors involved include the power of viral information distribution, the appeal of psychic as compared to monetary rewards, on-line social mores, and equal opportunity balanced with merit-based authority. The Google plan is sufficiently different in many of these areas that its attraction therefore remains to be demonstrated.

The final way in which the project appeals to me from an experimental point of view is that it represents a potential solution for one of the more intractable issues that the evolution of the Web to date has posed. On the one hand, the Web gives anyone the potential to display their works of authorship and attract readers. On the other hand, it has hugely impacted the ability of writers to make a living from their craft, due to the explosion of high quality, interesting, and diverse content at a multiplicity of sites. Perhaps Google's willingness to share ad revenue to a more significant extent than in the past may provide sufficient life support to save at least one pre-Internet meteor species from the very brink of extinction.

Or, at least, so I hope. My day job is getting in the way of my writing.

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A New Look for the Standards MetaLibrary

Andrew Updegrove

> ***Metalibrary:*** *An (abstract) metalibrary is the entire collection of a society's data, information, and techniques, together with the means by which it is stored, accessed, and communicated. (Rick Sutcliffe, The Fourth Civilization, 1998)*

In February of 2005, I launched a new resource at ConsortiumInfo.org called the "**Standards Metalibrary**." The announcement of the MetaLibrary was included in an issue I dedicated to **The Study of Standards**, which emphasized the increasing importance of standards of all types to modern society. Briefly stated, the purpose of the MetaLibrary was to aggregate the largest collection anywhere of serious works of authorship on standards for the benefit of students, academics, standards professionals and government. As with everything else at ConsortiumInfo.org, the MetaLibrary is available free of charge as a service to my firm's many consortium and corporate clients, as well as for the standards community at large.

The mission of the MetaLibrary was more fully explained in the original **announcement**, which read in part as follows:

> What is the Standards MetaLibrary? Just as "meta information" is "information about information" and not useful data in its own right, and "metatags" are hidden codes that help a browser find a specific webpage, a "metalibrary" is a means to an end, and not the end in itself. In this case, the MetaLibrary is a research tool comprising an ever-increasing number of carefully indexed, sortable and searchable abstracts [1,086, as of this writing] of articles about standards. Each abstract is linked to the full text of the article at its host site.
>
> The Standards MetaLibrary is not limited to material about standards in a narrow sense. Rather, it focuses on the importance of standards to the modern world and their impact on society, and how they are created, and by whom. The materials included therefore address topics such as how the standard setting process operates, how governments support this process and utilize standards, the economic benefits of standards uptake, legal aspects of the use (and abuse) of standards, and many other subjects that illustrate the role of standards in the world today.
>
> Why is there a need for a Standards MetaLibrary? There are four principal reasons why we have created, and why Sun Microsystems has supported [Sun provided a generous development grant to the project in 2004], the Standards MetaLibrary:

- To raise the consciousness of society in general, and government in particular, on the importance of standards to society. With the increasing interdependence of the world on the Internet and the Web, the standards that enable communications and information technology are becoming essential to the operation of almost all aspects of modern life. The Standards MetaLibrary will provide a ready, effective and encyclopedic reference for those creating policy and supporting the legislative process.

- To encourage the proliferation of serious works of scholarship on standards and standard setting. By providing greater exposure for existing work, greater ease for conducting further research, and a broader audience for new work, we hope to provide incentives for more authors to dedicate their efforts to works of scholarship in this area of study.

- By making a rich and growing body of work readily available (most of which has been made available by the copyright holders without cost), we hope to encourage colleges and universities to offer more courses on standards, and to include more readings on standards in the syllabi of courses on other subjects as well.

- As the number of pages available on the Web expands more rapidly than the ability of search engines to efficiently filter them, the need for specialized on-line research resources becomes more acute. For example, a search using the relatively narrow request "consortium +standard +technical +internet +society" on the new Google Scholar web browser returned 8,110 items on February 12, 2005. With such riches at hand, how can someone performing research reliably find her way to the particular information needed?

Needless to say, standards are even more important now than they were two years ago. To give but a few examples, knowledge is becoming increasingly digitized, the world is becoming ever more networked, and confronting global warming will be very dependent upon the development of adequate standards to assess and restrict further damage.

Now, the MetaLibrary has a new look and feel, carrying over the cleaner, more intuitive style and organization of Standards Today (throughout this year, the rest of the ConsortiumInfo.org site will be similarly updated). In addition, I have launched an aggressive program of adding new material to the MetaLibrary on a weekly basis (you can follow the additions as they are made by using the RSS feed that you can find **here**).

Whether or not you are familiar with the MetaLibrary, take a moment to check it out at http://www.consortiuminfo.org/metalibrary/. If you are the author of articles, or are aware of articles that should be, but are not yet, in the MetaLibrary, by all means please let me know, and I'll be pleased to add them.