# ICT STANDARD SETTING TODAY: A SYSTEM UNDER STRESS

# WHAT NEXT?

Mr. Natural, the eponymous hero of R.Crumb's *Zap Comix!* was wont to recommend, "*Always use the right tool for the job!*" These are wise words, and ones that raise the question of whether the standard setting infrastructure we have today is the one we need for the future.

That's the subject of this issue, as well as the question of what role, if any, government should play in helping to retool standard setting mechanisms to ensure that the needs of society are properly represented and addressed. In some countries, government participation in such a reexamination would be expected and natural. But in the United States, it would run counter to the historical role that government has played. To date, Congress has acted through its regulatory powers primarily in areas of safety and health, and left information and communications technology (ICT) standards largely in the hands of private industry.

But as the Internet and the Web play a larger and more important role in our lives, questions begin to arise over whether the public interest needs to figure more prominently in how these resources further evolve. The recent public debate over "Internet equality" is one example of how this realization is beginning to dawn. In some cases, as with open document formats, such ICT-based debates have involved standards as well.

I begin my analysis of these issues in my **Editorial**, which asks whether government should lead, follow, or simply get out of the way, and conclude that in at least some areas, governments will have little choice but to become involved. I reach this conclusion because private industry is not sufficiently motivated to address the interests of those parties (such as consumers) that currently largely lack a seat at the standard setting table.

In this month's **Feature Article**, I review the ways in which the current standard setting infrastructure, which evolved to meet the needs of an industrial economy, is inadequate to meet the needs of a world based increasingly upon ICT. I suggest that this structure is a system under stress, and lacks an obvious means of evolving sufficiently to address the challenges that lie ahead.

In my selection from the **Standards Blog** for this month I focus on a different and highly distributed weak link in the standards infrastructure – us. Despite the fact that the World Wide Web Consortium (W3C) has developed a suite of standards able to render Web sites much more accessible to those with physical disabilities, the use of these standards to date is woefully low. I regret that this is true for this site as well, and hope to be able to rectify this failing in the future.

In my **Consider This** essay for this month I depart from this issue's theme to highlight the relationship between the imprecise natural language standards we use every day to describe variable qualities, such as shades of light and dark, and the more precise ones

that standard setting organizations create for every variable, including even "slipperiness."

And finally, I provide an announcement of a meeting that I am helping to organize and present in June, in an effort to address some of the issues discussed in this issue. That meeting will be the third annual gathering of representatives of both consortia and accredited standard setting bodies. The goal is to engage in a highly interactive exchange of ideas and experiences that will lead to a more structured and ongoing avenue of communication between these two essential arms of the standard setting infrastructure.

As always, I hope you enjoy this issue.

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

*The complete series of Consortium Standards Bulletins can be accessed on-line at www.consortiuminfo.org/bulletins. It can also be found in libraries around the world as part of the EBSCO Publishing bibliographic and research databases.*

# CYBERINFRASTRUCTURE
# AND THE PUBLIC INTEREST

**Andrew Updegrove**

Over the last several months I have spoken at conferences and symposia in places as widely dispersed as Washington and Cambridge, Beijing and New Haven. In each case, the topic was the intersection of standards and the public interest, comprehending new concepts such as the "knowledge commons" and the increasing importance of "cyberinfrastructure." The issues we discussed included government's responsibility to utilize appropriate standards to safeguard the future of public documents, and the best way to ensure that the promise of information and communications technologies (ICT) is fulfilled in developing nations. These gatherings have been held under the auspices of institutions as diverse as the National Academies and the United Nations Development Programme, the Chinese Ministry of Commerce and the United States – European Commission Transatlantic Consumer Dialogue, and the Law Schools of Harvard and Yale Universities.

*Whether government should incline towards leading, following or simply getting out of the way [in standard setting] is a matter upon which there are likely to be strongly held differences of opinion. How well government chooses among those roles, and how well it executes when it chooses to lead, will likely have a profound impact on our lives in the years ahead.*

The fact that so many people are meeting in so many venues to discuss standards in non-technical contexts evidences the realization that something new and important is at work here. And the fact that many of these conferences are taking place in academic and government venues suggests that people are still trying to figure out what it's all about.

At the most basic level, what's under the microscope is the increasing influence and importance of the Internet and the Web. Unlike previous ICT advances, each of which offered incremental improvements in one discipline or the other, the Internet and the Web represent not only giant leaps forward in both information and communications technologies, but also the convergence of both in a way that profoundly impacts the relationship of the individual to almost everything, including public information, employment opportunities, government services, and the most personal and private of information.

As a result, the attention of government is commanded in almost every way: as a consumer of technology, as a provider of services to its citizens, as the guarantor of equal access and opportunity, as the regulator of telecommunications and content, as the ultimate arbiter of intellectual property rights, and so on, down through seemingly infinite and more subtle levels of impact. It's all very complex, and government is only just beginning to wrestle with many of the consequences – such as "off shoring," a word, as well as a threat to domestic jobs, that would not exist without the Internet.

At the heart of these new developments lie a variety of standards, from Internet numbers, names and protocols, to open document formats, to language and character codes. In the past, when new ICT innovations emerged, the standards upon which they relied lay far below the level of political and public notice. Now, they have often become the subject of public debate (there are open document bills pending in the legislatures of four US states) as well as international trade disputes (China continues to promote its WAPI standard for domestic use over WiFi) and even foreign relations (the ICANN dispute remains unresolved).

More fundamentally, governments are beginning to realize that perhaps the Internet really has changed everything, at least for them, and that standards represent one of the elements they are going to have to deal with as they begin to grapple with what to do about their new responsibilities. How will they deal with financial and medical data breaches? What can they do to ensure that first responders will be able to communicate the next time that terrorists strike in the Homeland, and how will the refugees of the next Katrina be able to access their electronic medical records? And what must governments do to ensure that public records will be available in fifty years, if they no longer maintain paper archives?

All of these questions, and many more, can only be solved (at least in part) through the development and management of standards. But who will set those standards? How can governments ensure that they are created? Does it matter who sets them, and who should have a say in their creation? Should government stand aside, or should they play a role in their development? If government should be involved, should its role be as a leader, a participant, a catalyst, a funding source or a regulator?

This dialogue is only beginning, and to date the United States government itself has most often been peripherally, and reactively involved. In the case of ICANN, it has responded more politically than analytical. With respect to first responder standards, the American National Standards Institute (ANSI) has perhaps acted more productively than the government agencies directly involved. Data breaches? Private industry has been more proactive, through the formation of consortia such as the Cyber Security Industry Alliance and, more recently, the PCI Security Standards Council. Privacy? Europe has acted more quickly and aggressively. Open document standards? Nothing is happening in Congress, but bills to mandate the use of open formats have been filed in four US States, and the Executive Agencies of Massachusetts began converting to open formats in January of this year. Several national governments in Europe have, or are moving in the same direction.

Whether government should incline towards leading, following or simply getting out of the way is a matter upon which there are likely to be strongly held differences of opinion. It's also likely, though, that government will not have the luxury of opting for the third choice in some of the areas just mentioned. How well government chooses among those roles, and how well it executes when it chooses to lead, will likely have a profound impact on our lives in the years ahead.

Hopefully it will choose wisely, and execute well.

*Comments?* updegrove@consortiuminfo.org

Copyright 2007 Andrew Updegrove

# ICT STANDARD SETTING TODAY:
# A SYSTEM UNDER STRESS

**Andrew Updegrove**

*Abstract:  The modern standards development infrastructure is largely the product of the industrial age, and evolved to address the needs of such an economy.  The requirements of a world that is increasingly based upon information and communications technology, however, are far different, and include demands for faster standards development, less vulnerability to uncooperative owners of necessary patent claims, and a greater need for universal, global adoption of core enabling standards.  These needs have been partially addressed through several organic developments, such as the proliferation of consortia, the evolution of more detailed intellectual property rights policies, and the passage of the World Trade Organization's Technical Barriers to Trade Act.  But the advent of the Internet and the Web, and the continuing introduction of new ICT-based products and services in ever shorter and more frequent product cycles, are exposing the fact that a system that retains strong roots in the 19th century is ill-suited to meet the demands of the 21st.  In this article, I survey some of the areas of inadequacy inherent in the current system, the ways in which society is being impacted by new standards-dependent technologies, and the situations in which governments may feel called upon to intervene.*

**Introduction:**  For most of the first hundred years of the modern era of standard setting, standards developers focused their attention on the attributes of tangible objects.  The standards they developed specified dimensions, materials and other physical attributes, and to the extent that they addressed intangibles, those elements were result-oriented, such as performance and safety.  Similarly, interoperability standards were physical standards, intended to ensure that part A would fit with part B.

These standards were created by domain experts, and by interested parties within the market niches that produced the products involved.  Usually, problems requiring standards solutions could be addressed within a single standard setting organization (SSO).

In a world of physical objects, standards development could conveniently lag product development.  Only after screws, steam power and electric lights had proven to be popular did a demand develop for standards to establish common thread gauges, boiler safety guidelines, and light socket dimensions.  Even in the case of networks, the same held true, as railroads, power companies and telephone services were all launched as local enterprises, using available proprietary implementations.  Not until these discrete networks were joined did the need for nationwide interoperability standards arise.

Such after the fact, non-urgent standard setting could, and sometimes did, have advantages.  For example, products that were inherently well designed and successful were more likely to become the models for *de facto* or *de jure* standards.  Similarly, when cycles of innovation are widely spaced and their results long lasting (Edison's light bulbs, in comparison to yesterday's floppy disks, remain in use today), taking time to achieve the best standards result represents a wise investment, due to the length of time that the market will be "locked in" by the decisions made.

Due to communication, travel and trade constraints, among other causes, most of the SSOs that were founded to meet evolving standards needs were national in scope (with notable exceptions, such as the International Telecommunication Union, or ITU).  But after the Second World War, the internationalization of standards increased under the auspices of several global standards bodies that were formed in addition to the ITU, most notably the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC).  But domestic standards can be used to protect domestic manufacturers from the competition presented by foreign goods, and at times this provided a disincentive to locally implement useful standards, even after a global authority had adopted them.

*In short, the initial standard setting infrastructure that evolved to serve the needs of the maturing industrial age was adequate, but also limited, to the specific demands that were placed upon it by the commerce of the day.*

In a time of primarily performance, material and physical interoperability standards, patent infringement was rarely an issue for most SSOs. Instead, when intellectual property rights (IPR) were mentioned, if they were mentioned at all, it was copyrights that were usually under discussion, since most SSOs funded their efforts in whole or in part through the sale of paper versions of their work.

When IPR policies were eventually created and adopted, they were high-level statements of principles, and lacked implementational details. Moreover, for many standards there was no proprietary advantage to be gained by any stakeholder as a result of a given standard coming out in one way rather than another.

In short, the initial standard setting infrastructure that evolved to serve the needs of the maturing industrial age was adequate, but also limited, to the specific demands that were placed upon it by the commerce of the day.

With the advent of the computer age, however, the need arose for new types of consensus-based specifications that have as much in common with non-technical standards as with the historical work products of SSOs (computer languages being an example). As technological innovation increased in many disciplines, the need for new standards implemented in software, silicon, wireless broadcasts, fiber optics and hardware emerged to serve the needs of (in particular) the information and communications technology (ICT) industries, and that need soon expanded dramatically. With the explosive success of the Internet, the utility and value of globally accessible, networked products, services and content has today become enormous.

*Our new, networked world holds unprecedented opportunities for those that have hitherto been denied access to modern education, information and opportunities. It also offers a platform that both public as well as private entities are enthusiastically embracing, resulting in a world where ICT access is becoming a prerequisite to enjoying the full rights and opportunities of society, democracy and the economy.*

Our new, networked world holds unprecedented opportunities for those that have hitherto been denied access to modern education, information and opportunities. It also offers a platform that both public as well as private entities are enthusiastically embracing, resulting in a world where ICT access is becoming a prerequisite to enjoying the full rights and opportunities of society, democracy and the economy. That access is only feasible, however, if standards exist to address local character sets, languages, and physical disabilities. Concerns such as these are far different from those encountered in developing standards for networking, and most existing ICT SSOs are neither interested in, nor even highly aware of, such needs.

At the same time, single standards can no longer solve many of the problems that new ICT opportunities are presenting, or even suites of standards created by a single SSO. Instead, increasingly complex collections of standards created by many SSOs, often with very different rules regulating IPR, must be cobbled together in order to do what needs to be done.

Who, then, should– and who is competent - to develop the standards required to feed the needs of this brave new ICT-enabled world? Is the traditional standard setting infrastructure adequate to the task, either technically or democratically? And to the extent that it is not, how, and by whom, and to what result will its shortcomings be addressed?

*Who, then, should – and who is competent - to develop the standards required to feed the needs of this brave new ICT-enabled world? Is the traditional standard setting infrastructure adequate to the task, either technically or democratically? And to the extent that it is not, how, and by whom, and to what result will its shortcomings be addressed?*

In this article, I will review some of the principle ways in which the traditional standard setting infrastructure is inadequate to the task of supplying the ICT standards of the future.

I will also describe some of the organic solutions that have already been developed by industry participants, and provide thoughts on how those issues that remain unresolved might be productively addressed.

***Standards challenges:*** When one examines the ICT standards needs of the future, it becomes immediately apparent that almost none of the dynamics that led to the evolution of the traditional standard setting infrastructure remain unchanged today. Consider, for example, the following:

    ***Interoperability demands:*** Unlike physical products, the fruits of ICT technologies require a large number of interoperability standards in order to function and flourish. This offers vendors the choice of trying to dominate a market, through the creation of a *de facto* standard (e.g., the VHS video format), and reaping large royalty rewards, or of collaborating with other vendors to develop a consensus-based standard that may more quickly and certainly create a new market that is shared by all. When vendors choose to roll the dice on the former approach, damaging standards wars can result.

    ***Innovation cycles:*** As noted, technology generations in many areas are becoming shorter with each cycle. This results in pressure to create and deploy standards more quickly. Otherwise, they may be useless by the time that they are released. As a result, it is less feasible for standards creation to follow product introduction, because the useful life of the standard is short. The only way to dramatically reduce time to market with a standard is therefore to develop both the standard as well as the products that will comply with it on a concurrent basis.

All will be well if those that are interested in a new product space decide to collaborate on a single standard. But if there are competing technologies, then each may wish – or indeed have no choice, if the technologies are fundamentally different – but to create its own standard(s) as a precondition to testing its products in the marketplace. The result can be either a healthy standards "competition," that enables multiple technologies to test themselves in the marketplace, with each finding its respective niche (as has occurred with the WiFi and Bluetooth standards, which were initially in competition with each other, but have now settled into the respective, non-competitive uses for which each it is best suited) or a standards war between standards that may have little useful differentiation between them in consumers' eyes (as is currently the case with the Blu-Ray and HD-DVD next generation video standards).

    ***Network prevalence:*** More and more ICT technologies must be used in connection with networks, but non-proprietary networks cannot form until the standards that enable them are created. It is axiomatic that the larger a network becomes, the more value can be derived by those that are connected to it. This drives up the value of both the network as well as the products and services that can be linked to, or provided through, it, and which therefore become more attractive to potential purchasers. To the extent that one standards solution favors one vendor more than another, an incentive is therefore created to influence the outcome. In the case of the increasing number of patent "trolls" that develop or purchase IPR solely for the purpose of reaping licensing revenues, placing a patent claim in the way of the implementation of such a standard has the potential to reap huge rewards.

    ***Freedom from lock-in:*** End-users have become more conscious of the fact that requiring the implementation of "open standards" in the ICT products they purchase can lead to wider choices, cheaper prices (through competition) and real protection from vendor lock in. Such standards create opportunities for new entrants into product and service areas, but also threaten incumbents that may currently control those niches. As a result, some industry participants will have more to gain by blocking and delaying standards efforts than by promoting and supporting them.

> *Technology generations in many areas are becoming shorter with each cycle. This results in pressure to create and deploy standards more quickly. Otherwise, they may be useless by the time that they are released. As a result, it is less feasible for standards creation to follow product introduction, because the useful life of the standard is short.*

    ***IPR infringement:*** ICT standards are unusually susceptible to infringing the patents of SSO members, and of greater concern, non-members as well, due to the density of patents that may exist in areas where standardization is most needed. The result is that standards are increasingly being developed in areas of intense patent activity, often referred to as "patent thickets." Because owners of

patents infringed by a standard can charge royalties or impose specific license terms on implementers of that standard, they may try and cause such infringement to occur during the development process. But if SSO IPR policies are tightened to lessen this possibility by requiring all such patents to be disclosed before a standard is adopted, participants with large patent portfolios become concerned that they may be required to undertake burdensome patent searches in order to avoid their IPR from becoming subject to obligatory licensing requirements.

*Convergence:* Historically, standards were created and used by the same vendors, allowing those vendors to evolve whatever rules and licensing practices they wished within a single SSO and industry niche. But in ICT, dozens of capabilities and hundreds of standards can be utilized in a single device (e.g., a state of the art cell phone may have 3G telephone, video, Web browsing, wireless, PDA and other capabilities, may utilize any of a number of operating systems, and can host multiple programs and services). Some of these standards are based upon patent pools, while others may have been developed by SSOs with strict royalty-free policies. If even a small fraction of these standards bear royalties, the cost of such a device could become prohibitive. And if too many IPR owners require unique licenses, the burden of obtaining and negotiating necessary rights can become excessively burdensome.

*Globalization:* Trade, travel, production and utilization are increasingly becoming global. In ICT in particular, the concept of a national standard has become archaic. As a result, there are great needs as well as great incentives to achieve global consensus on the type of uniform standards that can permit products to be sold and used anywhere. At the same time, the specific standards that are adopted can favor some participants more than others, and therefore some nations and regions (such as the EU) have incorporated standards into their global trade strategies. Those governments therefore dedicate resources and government attention toward standards strategies as well, and interweave these considerations into other international policy decisions.

Other forces can complicate globalization as well. Some standards bear significant royalty loads, which can empower some parts of the world (e.g., the West) with significant trade advantages, because their vendors can sell high-margin, branded products, while nations in other regions (e.g., emerging countries) are relegated to the status of low-cost, low margin job shops supplying finished goods to the owners of the patents that underlie controlling standards, but unable to sell similar goods, at high margins, directly to end-users. Such advantages can tempt those with large markets and production capabilities (e.g., China) to create their own domestic standards, in order to level the economic playing field, notwithstanding the constraints on such behavior contained in the Technical Barriers to Trade Act among World Trade Organization member nations.

*More complex standards problems:* The problems that require standards solutions today are increasingly large and complex, even where the business case being addressed may appear deceptively simple. Wirelessly printing a picture from a cell phone camera, for example, requires the use and coordination of a variety of different standards, each of which was created by a different SSO with different considerations in mind. As a result, printer, camera, mobile device and other vendors must all decide which set of standards could perform the desired task, and then each agree to implement that subset of the resulting standards "profile" that relates to their particular products, before their customers can enjoy the type of simple features that will enrich their product experience – while also enriching the vendors that wish to sell more printer paper, ink and camera-enabled cell phones.

***The problems that require standards solutions today are increasingly large and complex, even where the business case being addressed may appear deceptively simple.***

*Standards tools:* Unfortunately, the infrastructural tools available to deal with these challenges are in many respects inadequate to the task. The ICT standards infrastructure today comprises the following principal parts, with the limitations identified:

*Accredited standards development organizations (SDOs):* Nations throughout the world have variously complex systems of domestic SDOs. In most cases, they are "top down" governmental, or quasi-governmental bodies (as in Germany and China), while others are "bottom up" organizations (as in the United States) formed primarily by private industry and other stakeholders, and accredited by a national body (in the United States, that body for most purposes is the American National Standards Institute, or ANSI). But while some SDOs, such as ASTM, are becoming global in scope, others remain

national. As a result, they are to an extent in competition with the SDOs of other countries to either create and promote domestic standards, or to promote their standards for adoption (in preference to those of other countries) on a global basis. In addition, since global adoption is necessarily a two-step process, the time between chartering an SDO working group and final global adoption (often following some period of market implementation) can be protracted.

While independent in governance, budget and activities, SDOs have multiple points of contact, both domestically as well as internationally. In the United States, for example, ANSI runs multiple forums, panels and programs in which both SDO members (corporate, government, university, etc.) as well as SDO management members participate. Internationally, IEC, ISO and ITU have regular plenaries and other meetings, and multiple committees and other working groups are active on standards activities, all of which are peopled by member representatives from around the globe.

**Consortia:** Among all SDOs, only a small number are prominent in the ICT sector. Non-accredited SSOs ("consortia"), however, have proliferated wildly in the IT, and to a lesser extent, the CT, sectors since the late 1980s. Today, there are more than 500 such organizations in operation, ranging from small, closed vendor clubs that operate on an invitation only basis, to very large, institutionalized, global, open membership organizations. Some (such as the Object Management Group (OMG), World Wide Web Consortium (W3C) and the Organization for the Advancement of Structured Information Systems (OASIS) have broad and coordinated programs that can enable the accomplishment of comprehensive technical goals. But many others have been formed to develop and maintain a single standard. The largest consortia have dozens of staff, but the vast majority operate on a very limited budget, and have only one or a few full time employees, if they have any human resources at all beyond their members' own staff.

Unlike SDOs, which have various points of formal contact, there is no umbrella organization of any type for consortia, or other formal means by which they meet *en masse* to address matters of common interest.

***Among all SDOs, only a small number are prominent in the ICT sector. Non-accredited SSOs ("consortia"), however, have proliferated wildly in the IT, and to a lesser extent, the CT, sectors since the late 1980s.***

**The "Big Is:"** The three best-known global standards bodies – the ITU, IEC and ISO – play a variable role in ICT standard setting, with more communications than information technology standards arising in SDOs for eventual international adoption. Far more IT standards are created today in consortia than in SDOs, and only a small percentage of their standards are introduced to the accredited system, despite the creation of avenues such as the "Publicly Available Standard" (PAS) process for that purpose. When consortium-developed standards are offered for formal adoption, they are usually submitted to a subcommittee of IEC/ISO Joint Technical Committee 1 (JTC 1), which was originally formed to consider (and still processes) SDO-originated IT standards.

Because most consortia both court and admit members globally, and due to the fact that consortia are commonly founded by transnational companies in the first instance, they are often able to achieve wide international adoption of their standards without seeking the imprimatur of the global accredited standards infrastructure at all. Increasingly, however, consortium members are urging these SSOs to qualify as PAS submitters so that particular standards that are of significant interest to particular customer groups (such as European governments) that favor, or require, ISO/IEC standardized products, can achieve that status.

**Liaison relationships:** These many SDOs and consortia are interlinked by a loose network of one-on-one liaison relationships, each typically formalized by a brief, high level "Memorandum of Understanding," if they are formalized at all. While these relationships can be adequate for maintaining communication and, to a degree, avoiding needless duplication of activities, they are rarely multi-party, and therefore not typically capable of delivering comprehensive solutions to complex problems (such as the camera/printer example noted above). Moreover, maintaining such relationships well is time consuming and resource intensive, and a typical ICT SSO may maintain 20 to 40 such arrangements. An SSO with a large full-time staff can task a full-time employee with managing and maintaining such relationships, but a typical consortium is too lightly resourced to afford a dedicated staff person to such a

purpose. As a result, liaison relationships are frequently served by member volunteers, with a greater risk that any given connection may languish, and that overall cohesiveness will suffer.

*Participation:* While both SDOs as well as most consortia espouse many of the same open standards principles, some of those principles are honored to a greater or lesser extent in word rather than in the breach. In the case of SDOs, which are by definition committed to the participation of all those affecting, and affected by, standards ("stakeholders"), the greatest challenge can be attracting all stakeholders into participation. After all, creating technical standards is not likely to be of great appeal to the average consumer, nor to consumer advocates or to government personnel with more immediate concerns. Only a few consortia (such as the W3C) include societal concerns and broad non-commercial participation in their charters at all. In the case of standards that have only societally neutral elements to be specified, such non-participation is likely to be non-problematic. But in those areas where the interests of all those affected are not congruent, the absence of a watchdog for the unrepresented can be a cause for concern.

*The modern ICT standards infrastructure is a lightweight, highly distributed, and only loosely connected system. As such, it is democratic, reasonably responsive, and economically efficient. But it is also ill-suited to address complex problems, and democratic only for those that find it sufficiently in their self-interest to participate.*

In summary, the modern ICT standards infrastructure is a lightweight, highly distributed, and only loosely connected system. As such, it is democratic, reasonably responsive, and economically efficient. But it is also ill-suited to address complex problems, and democratic only for those that find it sufficiently in their self-interest to participate. Moreover, some SSOs are vulnerable to manipulation by the individual companies, and groups of companies, that are willing to dedicate the time and resources needed to support their operations.

*Societal challenges:* At the same time that challenges are increasing for the ICT standards infrastructure, society, commerce and governments are rushing pell-mell towards greater and greater dependence on ICT in general, and on the Internet and the Web in particular. With astonishing speed, vital services and facilities, such as international banking, communications, travel, utilities, and, indeed, just about everything else of significance in the modern world, has either been redeployed across the Internet, or has become dependent upon the uninterrupted availability of the Internet for its own viability.

That viability is in the first instance enabled by the protocols and standards that together support the Internet and the Web. These specifications function as the synapses through which information flows in what has come to be described as the *cyberinfrastructure.*

*With astonishing speed, vital services and facilities, such as international banking, communications, travel, utilities, and, indeed, just about everything else of significance in the modern world, has either been redeployed across the Internet, or has become dependent upon the uninterrupted availability of the Internet for its own viability.*

But is the infrastructure that creates and maintains these standards, as well as the many others that enable the services, software, and devices that run on top of the Internet and the Web, the right infrastructure to robustly, democratically and securely support the cyberinfrastructure upon which we are increasingly dependent? There are multiple reasons to believe that it is not, of which the following are examples:

- Three and a half years after the disastrous events of 9/11 exposed the inadequacy of first responder communications, wireless equipment is still incapable of permitting fire, emergency and police responders to reliably and seamlessly communicate.

- China is developing multiple standards for domestic use in areas such as 3G telephone, wireless communication, and video compression due to perceived inequities in the costs of implementing patent-encumbered global standards, arguably in violation of its obligations under the Technical Barriers to Trade Act. If this practice becomes more common in China, 1.3 billion of the world's inhabitants will be utilizing different standards than the rest of humanity.

- Governments are becoming aware that their wholesale conversion to electronic document production and archiving is leaving them vulnerable to proprietary lock in, as well as future inability to access documents. OpenDocument Format (ODF), an OASIS-developed standard, has been adopted as an ISO/IEC standard to meet that concern, and it has been implemented in multiple proprietary and open source products. At the same time (2007), Microsoft is vigorously lobbying the National Bodies entitled to vote in JTC 1 in order to persuade them to adopt Ecma 376, a specification that describes the Office Open XML formats utilized by Microsoft's Office 2007 productivity suite. However, these National Bodies are complaining about the degree of pressure that is being brought to bear upon them by Microsoft (and its competitors), as well as the speed at which they are being asked to process a specification that is more than 6,000 pages long.

- The legislatures of four US states are currently considering bills that would mandate the use by government of office software based upon "open document formats." Similar efforts are ongoing in several European nations. The bills contain language that is in some ways similar, but in no case identical, representing the prospect of a world of divergent definitions of "open standards."

- SSOs have not been successful in adopting IPR policies that are sufficiently stringent to provide real protection against the emergence of "submarine patents," at least without the need for implementers to engage in hugely expensive defensive litigation against the owners of those patents.

- There is no consensus on the definition of "open standards" at a sufficiently useful level of granularity. New challenges, such as the increasing popularity of open source software, are widening the gap.

- There is a similar lack of uniformity regarding the terms of IPR policies among SSOs. To the good, a "one size fits all" approach would be unnecessarily restrictive, but to the bad there are needless inconsistencies as among policies that are each attempting to say the same thing. This erodes certainly and increases complexity in converging technologies.

- The number of commercial disputes over whether a patent owner that has made a commitment to license that IPR on reasonable and nondiscriminatory (RAND) terms is violating that pledge is increasing.

- The IPR policies of most consortia that develop software are inadequate to ensure the implementation of such standards in open source software.

- There is no mechanism for consumers or other stakeholders to participate or to make their concerns known in most ICT SSOs, despite the increasing impact that ICT standards have on their welfare.

- In countries such as the United States, government remains both disengaged, as well as largely unaware, of the increasing importance of ICT standards outside of traditional telecommunications boundaries.

- The importance of the Internet and the Web has been recognized by the United Nations, which chartered the World Summit on the Information Society (WSIS). However, that multi-year process became mired in a dispute over the continuing right of the United States government, via the Department of Commerce, to oversee the Internet Corporation on Assigned Numbers and Names (ICANN). Despite two Summit meetings and the participation of thousands of public, private and nonprofit representatives from around the world, little concrete action has resulted. Meanwhile, crucial infrastructural work is being undertaken by a handful of small, under-funded and unsung SSOs such as the Uniforum (which seeks to encode the character sets of all existing and archaic languages) and SIL International (which assigns and maintains numeric codes for those languages).

- While the benefits of the Internet and the Web are being made available to more peoples around the world, little progress has been made thus far in implementing accessibility standards (even by governments), to ensure that those with disabilities will be able to enjoy those benefits wherever they may live.

- Standards continue to be created in "silos" by vendors, while end users increasingly need solutions to larger problems that can only be solved by a more holistic approach.

*What is to be done:*  To be sure, the standards world has responded in a few instances both organically as well as deliberately.  The following are examples:

*While the benefits of the Internet and the Web are being made available to more peoples around the world, little progress has been made thus far in implementing accessibility standards (even by governments), to ensure that those with disabilities will be able to enjoy those benefits wherever they may live.*

*IPR Policy convergence:*  There are multiple efforts ongoing, and even accomplished, to achieve greater uniformity and coherence among IPR policies.  Recently, the ITU, IEC and ISO announced a unified IPR policy.  In the case of open document formats, the ODF Alliance, an organization formed to promote the uptake of ODF by governments, has created a model statute to be utilized as a starting point by governments considering enacting legislation to encourage or require to usage of open document formats.  Each of the four bills now under consideration in the United States is in part modeled on that model, and together they are sufficiently in harmony (at least in their current forms) to provide a usable reference point for both SSOs as well as vendors to meet their requirements.  Finally, a subcommittee of the American Bar Association Science and Technology Section has recently completed a multi-year project directed at creating an extensively annotated IPR policy, in part to assist SSOs in creating IPR policies with more uniform terminology.

*Metastandard consortia:*  A few consortia have been formed to assemble suites of standards capable of solving complex problems.  The camera/printer business case described above is a real world example, and has been addressed by the Mobile Imaging and Printing Consortium (MIPC), a client of the author's.  Another client, the Network Centric Operations Industry Consortium (NCOIC) is undertaking a far more complex challenge: assembling the standards needed to enable members of the US armed forces and those of US allies to identify themselves to a single network, and gain instantaneous access to information that becomes known to that network.

*Simultaneous innovation and standardization:*  The commercial rewards anticipated from new technologies have been sufficiently attractive to provide the incentive for industry to invest in standard setting simultaneous with innovation, even where it is far from certain that the resulting standard and products will be successful.  Perhaps the best example of this practice can be found in the case of wireless technologies, where a first wave of innovation gave rise to several contenders to dominate the home network space.  One entrant, called HomeRF, failed, despite being supported by a consortium effort.  Another, WiFi, developed by IEEE, an SDO, succeeded in taking the original prize, while the third, Bluetooth, originally developed by Ericsson Mobile Phones and then supported by the Bluetooth Special Interest Group, failed to establish itself in that space, but has become dominant in mobile and certain other devices.  Now a second wave of standards is reaching the market, targeted at other discrete uses, such as Nearfield Communications, a very short-range standard developed by another client of the author, the NFC Forum, which is being used in (for example) contactless payment cards.  Meanwhile, two competing standards will allow home entertainment and computer peripheral equipment to shed their connecting cables, WiMax will provide intermediate range wireless networks, RFID tags and readers are reaching the supply chain, and mesh network standards are being developed to allow the digital home to become a more sophisticated reality.

*The development of standards "swarms" allows the marketplace to simultaneously innovate, productize and standardize, and at the same time for competing*

The development of such standards "swarms" allows the marketplace to simultaneously innovate, productize and standardize, and at the same time for competing technologies to vie for supremacy in the marketplace.  Absent such behavior, new technology based products and services would reach the marketplace far more slowly, and a

***technologies to vie for supremacy*** less robust and rich range of choices would be available.
***in the marketplace.***

***The Future:*** Useful though these developments may be, they are evolutionary rather than revolutionary. They do not fundamentally challenge or reorder any existing power relationships among standards stakeholders, or bring any new stakeholders into the process. Nor do they significantly identify or serve to address societal interests that are both impacted by ICT progress as well as at risk as the importance of cyberinfrastructure grows.

This dilemma gives rise to many questions: Is revolutionary change needed, or will the infrastructure of the past in fact be sufficient to address the cyberinfrastructural demands of the future? And if such change is required, how will it manifest itself? Will government expand its actions beyond its traditional health and safety related regulatory function? If so, will it limit its actions to simply leading by example, as it appears to be doing in the case of open document formats? Or will it in fact expand its regulatory function as well? Following the completion of the initial phase of the WSIS process, the United Nations retreated, rather than advanced, commissioning the Working Group on Internet Governance (WGIG) more as a discussion group than a new body with a remit to act. Will that group become more substantive, or will it simply debate?

The answers to questions such as these may have much to do with public perceptions of the challenges that will need to be addressed, and the importance that is placed upon those challenges. How these challenges should be viewed and addressed give rise to further questions:

- Will Internet access achieve the legal status of a public utility? Should it?

- Will government extend accessibility laws to the Web? If so, will they defer to SSOs to create not only the standards by which accessibility can be achieved, but also the definition of when it has?

- Will eminent domain laws be extended to cover IPR, if that IPR is asserted to block or unduly tax the usage of essential, standards-based ICT services?

- Should the development of some ICT standards, such as those that relate to voting, privacy, and medical and financial records, be subject to greater public participation, and if so, how can that participation be achieved?

- Will the Technical Barriers to Trade Act and the WTO complaint resolution process adequately address standards-based trade disputes?

- Will the United States voluntarily surrender its remaining control over ICANN?

- Will ISO/IEC and the National Bodies make their processes more transparent, given that they are exercising a quasi-governmental function (e.g., by making all contradictions, responses and minutes public)? Should consortia and SDOs be required to do the same for certain types of standards?

- Will courts and regulators take a more active interest in standards-related activities (e.g., by imposing stricter duties of good faith and right conduct on standards participants, and permitting stricter penalties when those duties are violated)?

- Will governments make it safer to participate in standard setting (e.g., in the United States, by expanding the benefits of the National Cooperative Research and Production Act to participants in standards development, instead of just to SSOs themselves)?

- Should government provide greater support for standard setting in the public interest (e.g., by offering tax incentives to participate in SSOs that maintain open processes and provide public participation, or perhaps by subsidizing the operations of such SSOs, where the public interest has been identified as being of importance)?

- Will industry create new ways to address convergence, so that a more cohesive, efficient process of standard setting results?

***Will governments make it safer to participate in standard setting (e.g., in the United States, by expanding the benefits of the National Cooperative Research and Production Act to participants in standards development, instead of just to SSOs themselves)?***

Given the current status of the standard setting infrastructure, it is difficult to imagine that the concerns underlying many of the questions posed above will be addressed by industry voluntarily. It is equally difficult to imagine that many of the governmental actions postulated above will occur in the United States, with its laissez-faire, bottom up approach to standard setting. But it is quite conceivable that they could happen elsewhere, perhaps most obviously in Europe.

***Summary:*** Governments have already begun to venture into the realm of ICT standards in new ways, most notably as regards open document formats, privacy, and as they relate to open source software. Whether this is the beginning of an ongoing and extending period of engagement by government in cyberinfrastructure-related matters remains to be seen, but there are logical reasons to assume that it is.

How extensive such a movement will be will have much to do with how responsibly and effectively the private sector acts on its own. Given the history of standard setting to date and the fact that ICT standardization occurs primarily in consortia today, it would appear that at minimum the leading consortia that are influential in creating cyberinfrastructure would be well advised to consider adopting a greater sensitivity to social concerns, if they wish to retain their independence of action when they create standards in that domain.

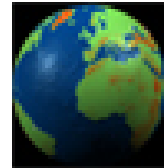*Comments?* updegrove@consortiuminfo.org

Copyright 2007 Andrew Updegrove

# THE W3C, ACCESSIBILITY AND THE WEB:
# A SHARED RESPONSIBILITY

**Date: April 13, 2007**

Views: 1,886

Human beings have an astonishing capacity to take the most incredible innovations for granted almost as soon as they begin to enjoy them. A less attractive feature of human nature is our ability to forget (and even not care) that others may not enjoy those same advantages. Sometimes, those that are disadvantaged in this way may indeed lose ground as we gain new conveniences and privileges.
So it is with the Web, because those that are less fortunate may lose access to traditional services as they migrate to this new platform.

As a result, I have tried to do my part to focus attention on a regular basis on Web and IT accessibility issues, in all their many forms (a recent
example is here). Happily, the media is paying closer attention to equal IT access, if only because advocates of the rights of those with physical abilities have sought to make accessibility issues more visible. A recent example of such public attention was the focus in Massachusetts on accessibility in connection with the adoption of ODF. More broadly, the World Summit on the Information Society (WSIS), a multi-year initiative launched under the auspices of the United Nations, has sought to promote Internet and Web accessibility on a global basis.

To the general public, hardware and software economic roadblocks to Third World equality of access are easy to understand, and thus the worthwhile work of the One Laptop Per Child initiative justifiably receives wide attention. But there are many other initiatives that have been, and continue to be, pursued largely outside public notice. These projects address much more basic infrastructural challenges, and therefore appear less "interesting" to the general public. Yet without this important work, true global equality of Internet and Web access would not only be economically challenging to achieve, but technically impossible as well.

These initiatives range from the Unicode (which seeks to encode, and therefore make machine readable and convertible, all current and historical character sets), to language codes (which identify the thousands of current and extinct languages for similar purposes), to the many accessibility initiatives surrounding ODF. I'm pleased that the Linux Foundation, of which I am a director, is also doing its part, through its Accessibility Working Group. That initiative is dedicated to developing free and open accessibility standards to enable comprehensive universal access to computer systems, applications, and services. And so on, up, down and across all of the many levels of IT infrastructure that continue to expand and become more complex on a daily basis.

One of the leaders in such efforts has long been the W3C, which has launched accessibility projects of many types for much of its existence. Unlike most large consortia, which tend to be driven primarily by commercial interests that focus on market opportunities rather than market equalities, the W3C has demonstrated a long-standing commitment to ensuring that the fruits of its labors are accessible to all, regardless of physical abilities, culture, language or geographic location. This is crucial work, and is a tribute to the values that Tim Berners-Lee and others at the W3C have inculcated in that organization.

The text that I've pasted in below is Robin Cover's extract from the W3C announcement (taken from Robin's invaluable XML Daily Newslink emails). This item provides a good example of the quiet but important work that is ongoing at the W3C and a small number of other organizations, and the degree of technical attention that achieving universal accessibility requires. Billions of people around the world will share in the benefits of work such as this – and yet few of those that benefit are likely to ever know to whom they owe a well-deserved expression of appreciation.

Before moving on, I'd like to highlight one section of the W3C announcement, because it highlights the fact that you and I have an opportunity – and a responsibility – to do our part as well. Enabling accessibility at the standards level will prove to be a wasted effort if Web site developers and owners do not take advantage of the good work of the W3C and others:

> This document provides guidance for developers of HTML that enables support for international deployment. Enabling international deployment is the responsibility of all content authors, not just localization groups or vendors, and is relevant from the very start of development.

The W3C has done its part. Now it's our turn to do ours.

* * * * * * * * * * * * * *

**Internationalization Best Practices: Specifying Language in XHTML and HTML Content**

Richard Ishida (ed), W3C Technical Report

Members of the W3C Internationalization Core Working Group have published "Internationalization Best Practices: Specifying Language in XHTML and HTML Content" as a Working Group Note. The document is part of a series and written for HTML content authors working with XHTML 1.0, HTML 4.01, XHTML 1.1, and CSS. Specifying the language of content is useful for a wide number of applications, from linguistically sensitive searching to applying language-specific display properties. In some cases the potential applications for language information are still waiting for implementations to catch up, whereas in others, such as detection of language by voice browsers, it is a necessity today.

On the other hand, adding markup for language information to content is something that can and should be done today. Without it, it will not be possible to take advantage of any future developments. Applications already exist that can use information about the natural language (i.e., the human, non-programmatic language) of content to deliver to users the most relevant information or styling, based on their language preferences. The more content is tagged and tagged correctly, the more useful and pervasive such applications will become. Language information is useful for things such as authoring tools, translation tools, accessibility, font selection, page rendering, search, and scripting. These applications can't work, however, if the information about the language of the text is not available. Language information should therefore be specified for the page as a whole, and wherever language changes within the page. In the future there will be other applications for language information, driven by developments in technology. For example, implementations of the CSS3 ':first-letter' pseudo-element will need language information to apply correct styling.

*You can subscribe to Robin's Newslink emails by sending a request to newsletter-subscribe@xml.coverpages.org.*

*Bookmark the Standards Blog at http://www.consortiuminfo.org/newsblog/ or set up an RSS feed at: http://www.consortiuminfo.org/rss/*

*Comments?* updegrove@consortiuminfo.org

Copyright 2007 Andrew Updegrove

## #48 The Slippery (and Colorful) Business of Standards

The recent announcement of a new standard for "slipperiness" reminded me not only of the seemingly infinite, and at times surprising, types of standards we find we cannot live without, but also of the linkage between language and standards.

The standard in question was developed by the Entertainment Services and Technology Association (ESTA), one of those worthy standards development organizations that may somehow have escaped your notice to date.  According to the ESTA Web site, its core mission is "Building the Business of Show Business," and in support of that quest, its Floors Working Group developed what it calls *BSR E1.34-200x, Entertainment Technology - Measuring and Specifying the Slipperiness of Floors Used in Live Performance Venues.*

*One might wonder whether it is more surprising that the world has existed so long without a way to measure the slipperiness of the floors of live performance venues, or that someone has now taken the time and effort to plug that remarkably small gap (odds are that your wonder may incline towards the latter).*  If one were so inclined, one might wonder whether it is more surprising that the world has existed so long without a way to measure the slipperiness of the floors of live performance venues, or that someone has now taken the time and effort to plug that remarkably small gap (odds are that your wonder may incline towards the latter).  Still, as noted in the announcement, "It is axiomatic that you can't manage what you can't measure," and if you're in the Business of Building Show Business, I guess it's quite plausible that you might find yourself in need of managing the slipperiness of live performance venues as well.

If one were so inclined, one might wonder whether it is more surprising that the world has existed so long without a way to measure the slipperiness of the floors of live performance venues, or that someone has now taken the time and effort to plug that remarkably small gap (odds are that your wonder may incline towards the latter).  Still, as noted in the announcement, "It is axiomatic that you can't manage what you can't measure," and if you're in the Business of Building Show Business, I guess it's quite plausible that you might find yourself in need of managing the slipperiness of live performance venues as well.

All snarkiness aside (or mostly aside, anyway), the same announcement notes that slipperiness standards already exist to ensure that "firemen don't slip off fire engine steps and that pedestrians don't lose their footing."  Fair's fair, then, say I, and I for one feel compelled to agree that it was high time for someone to "deal with the concerns of performers trying to dance or to do some other unusual movement in front of an audience."  Viewed from that perspective, slipperiness is certainly something I'd want *someone* to be managing if I was at risk of tumbling arse over tin cups in front of a few hundred people.

More to the point of this on-line venue, however, is the fact that standards provide a way to quantify individual perceptions, the better to intelligibly communicate and share those perceptions to achieve mutually desirable results.  And as this announcement indicates, while everyday language is adequate to categorize qualities in a very general way, it is rarely useful to do so in a highly precise manner.

Still, natural language does use words in the nature of quantitative standards all the time.  If that sounds like an odd contention to make, then this would be an ideal time for me to invite you to Consider This:

Language is by purpose descriptive, and successful in that regard in an analog sort of way.  Let's use a simple example to make this point, starting with one of the simplest of distinctions:

<*Black* or *White*>

Not much need for a standard to draw this absolute distinction.  But not much information can be conveyed by so narrow a range of alternatives, either, because we are restricting ourselves to a binary

situation, offering only two choices.  So now let's expand the field of opportunity a bit, and change our field to read as follows:

<the range of *Black* to *White*>

Now we have an infinite number of gradations between the two binary extremes.  But how can we manage that range so that we can make use of this new opportunity?  One way, as noted in the slipperiness announcement, is by measuring it, but natural language doesn't lend itself well to that.  We can make some progress by using words of comparison, as in:

<*This* is darker (or lighter) than *that*>

That's a bit better, but only if all you want to know is whether A is darker or lighter than B, rather than just *how* light or dark A actually is.  If we want to know the latter, then we still need a broader choice of words to work with – and these can rightly be referred to as standards, broadly so called.  For example, we are already familiar with this range of descriptors:

<*Black*, *Dark Gray*, *Gray*, *Light Gray* and *White*>

While one might quibble that each individual element is "just the name of a color," when viewed together they can be seen to be the common language equivalents of, for example, the wattage of light bulbs, with words corresponding to numbers.  After all, the sequence of 40, 60, 75, 90 and 150 (the common light bulb wattages) provides exactly the same number of alternatives in bulbs as we used words to describe the range of shades above.  In the case of the shades from light to dark, though, we use words for cultural reasons to describe our visual perceptions rather than numbers - and thank heavens for that.

If we were to use numbers, though, it might be more obvious to us that we are in fact using a performance standard to measure the amount of color we perceive when we look at something (black, after all, being the name we give to a surface that absorbs all of the frequencies of the visible light spectrum, while white is the "color" we see when all such light is reflected).

For most purposes, the five words noted above will suffice.  And this is fortunate, because natural language becomes less useful when it is required to become more granular, because we lack a vocabulary of comparatives that is more than superficial (where does one go after "very light gray?").  In consequence, we may be forced to resort to metaphors, rather than comparatives, but that only helps us be a bit more specific at the extremes ( we know what is meant by the words "slow as a tortoise" and "fast as a bat out of hell," but metaphors don't arise naturally to fill in the space between).

Still, if you were picking paint colors, you would find that for marketing purposes the paint manufacturer will have provided more or less arbitrary names for the dozens of shades of gray it offers, in addition to its own numerical lot numbers.  And it's likely that it will be those names, and not the lot numbers, that you will use to communicate your final selection to the paint clerk.  Anyone that has viewed the sometimes ludicrously lush names of paint samples might appreciate the virtues of these numerical identifiers, especially if they are sequential rather than arbitrary.  But it's still more likely that the conversation at home will run more to "Dear, don't you just *love* Festive Fuchsia?" rather than "No. 1094 is *so* what we want!"

But Festive Fuchsia won't serve in all situations.  Instead, numerical scales have been developed to measure exactly the electromagnetic data that we more familiarly refer to as colors, and with far greater precision.  Among others, astrophysicists, meteorologists, and engineers all find cause to measure the amount of light absorbed or reflected by a given surface.  The ratio of light that is reflected in comparison to the total energy that strikes such a surface is expressed as its *albedo* (a term that can be used in relation to all types of electromagnetic energy, and not simply that which is represented by the frequencies that comprise the spectrum of visible light).  Measuring the albedo of a given surface can be useful in connection with everything from consumer product design to calculating the future progress of global warming, not to mention the possibility that remote planets might harbor life.

Whether vernacular or scientific, and expressed in words or numbers, each methodology assigns a standard set of descriptors to communicate the amount and type of reflected light, and each is equally valid, so long as it serves the purpose of providing useful information.

***One day, we received drawings in the mail from Brian Watson, our architect, showing a tile design.  We liked the design, but not the colors he had used.  The workman was arriving the next day to set the tile, but Brian hadn't included any color samples with the design from which we could make another selection.  What to do?***

What to do, though, if you find yourself caught between these two methodologies, and in need of the precision of the scientific scale while having only words at hand?  This happened to my wife and I while we were remodeling our home a decade ago.  With the interior of our home consigned to a couple of construction dumpsters, we were living and working out of our vacation house on an island off the coast of Maine.

One day, we received drawings in the mail from Brian Watson, our architect, showing a tile design inset he was suggesting for the shower in the guest bathroom.  We liked the design, but not the colors he had used in the drawing.  The workman was arriving the next day to set the tile, but Brian hadn't included any color samples with the design from which we could make another selection.  What to do?

We called Brian and tried to describe the colors we wanted in the abstract.  But lacking a commonly understood color vocabulary (a/k/a, a standard), we were getting nowhere, until Brian had an inspiration.  Like us, he had a six year-old child, which led to a sudden, mid-sentence interjection: "Do you have the complete set of Crayola crayons up there?"  Indeed we did, as did he.  In no time, we had agreed on Burnt Sienna (an original Crayola color, introduced in 1903) and Teal Blue (a shade of more recent vintage, added to the Binney & Smith Big Box in 1990), and our southwestern motif inset was on its way to completion.

All of which only goes to show that dealing with qualitative data can be a slippery business.  Unless, that is, you've got a standard – even if it's only a Big Box of crayons.

*Comments?* updegrove@consortiuminfo.org

*Read more* **Consider This…** *entries at:*  http://www.consortiuminfo.org/blog/

Copyright 2007 Andrew Updegrove

## FEATURED MEETING:

## AN OPEN INVITATION TO ATTEND

## GLOBAL STANDARD SETTING 2007:
## AN INTERACTIVE DISCUSSION

## Hosted by Gesmer Updegrove  LLP
40 Broad Street, Third Floor
Boston, MA 02109
617-350-6800

## June 20, 2007, 8:30 am – 4:00 pm

On June 20, the third in a series of annual events focused on bringing together leaders of both accredited and non-accredited standards developers will be held, sponsored by the American National Standards Institute (ANSI).

ANSI represents U.S. interests in a number of important global standards organizations, and accredits those traditional standards development organizations (SDOs) that are formed to primarily benefit U.S. interests. Consortia, on the other hand, are not accredited by any national or international authority, and seek to set global standards, and many are headquartered in the United States.  Since SDOs are formed to represent national interests, while consortia are created to serve the interests of an international membership, the paths of these two communities cross constantly in the trenches, but almost never in a formal fashion, except through the many one-on-one liaison relationships established between SDOs and consortia that address the same or adjacent technical areas.

Despite these differences, SDOs and consortia have far much in common, including the fact that their memberships characteristically overlap heavily.  They also share common concerns relating to intellectual property rights management, governance, member recruitment and retention, and promotion of their work product.  At the same time, each has competencies that the other usually lacks, and experience that its peers of both types could benefit from sharing.  The goal of this year's event will be to not only gain from another exchange of ideas, but also to explore avenues for ongoing communication in a more structured and frequent basis.

This year's event has been designed to be highly interactive, and will feature brief panel presentations analyzing problems faced by all types of standard setting organizations (SSOs), followed by lengthier, facilitated discussions involving all attendees.  A final discussion period has been set aside to discuss ways in which consortia and accredited organizations can engage more frequently and productively to address matters of common concern.

**Attendance:**   Participation is limited to senior management, Board members and other qualified representatives of both accredited and non-accredited SSOs, to ensure a high-level peer-to-peer exchange of issues and ideas.  There is no charge to attend, but space is limited and will be allocated on a first-come, first-served basis.

**Invitations:** If you would like to attend this meeting, please reply to andrew.updegrove@gesmer.com with your name, title and the name of your organization, or visit the event Web site, at ,<URL to come.

**Location:** 40 Broad Street, Boston (ten minutes from Logan Airport and South Station).

**Agenda:** The agenda for the event is under continuing development and subject to changes.

| | | |
|---|---|---|
| 8:00 | **Registration/Continental Breakfast** | |
| 8:30 | **Welcome, Meeting Purpose and Objectives** | Andrew Updegrove<br><br>Partner, Gesmer Updegrove LLP; Chair, ANSI Consortium Outreach Group and Meeting Host |
| 8:55 | **ANSI Welcome** | Joe Bhatia, CEO, ANSI |
| 9:00 | **Self-introduction of participants**; reasons for attending and expectations | All |
| 9:15 | **Discussion Topic One: Intellectual Property Rights and Global Standards Setting**<br><br>Standard setting today is increasingly impacted by intellectual property issues that are common to both accredited and non-accredited SSOs.  The panel chair will review the range of IPR issues now facing SSOs, after which the panel will examine one of key issues under discussion today:  *ex ante* disclosure of terms during the standard setting process. | **Panel Chair:**  Earl Neid, Intel Corporation |
| 9:25 | **Panel Presentation**<br><br>*Ex ante* disclosure:  The Current Debate | **Presenters:** |
| 9:55 | **General Discussion** | **Panel; Attendees** |
| 10:45 | ***Coffee Break*** | |
| 11:00 | **Discussion Topic Two:  The Business of Standard Setting and Best Practices**<br><br>Standards need SSOs to develop them, and SSOs need members, money, and more.  The panel chair will review some of the challenges SSO face today as businesses, after which a range of SSO managers (small, medium and large), both dedicated and outsourced, will discuss how they are facing those challenges | **Panel Chair:**  Karl Best, Director of Strategic Consulting, Kavi |

| | | |
|---|---|---|
| 11:10 | **Panel Presentation** | **Presenters:** |
| | | |
| 11:40 | **Open/General Discussion** | **Panel; Attendees** |
| | | |
| 12:30 | *Lunch and One-on-One Discussion* | |
| | | |
| | **Thoughts on Collaboration (during lunch)** | Bob Noth, John Deere and ANSI Chairman |
| | | |
| 1:15 | **Discussion Topic Three:  Managing Convergence**<br><br>SDOs like IEEE and ASTM are going global; consortia are introducing more standards through the PAS process; new organizations are developing "metastandard."  What does it all mean?  Where is it all going?  The panel chair will review some of these trends, after which individual panelists will share some of their solutions and adaptations | **Panel Chair:**  Ron Silletti, IBM and ANSI Ex. Com |
| 1:25 | **Panel Presentation** | **Panelists** |
| | | |
| 1:55 | **General Discussion** | **Panel Facilitator; Attendees** |
| | | |
| 2:45 | *Coffee Break* | |
| | | |
| 3:00 | **Topic Four:  Next Steps**<br><br>A general discussion among all attendees on how all types of SSOs and ANSI can work together most productively | **Facilitator:** Andrew Updegrove |
| | | |
| 3:45 | **Summary of Significant Insights from Day's Discussion** | Joe Bhatia, CEO, ANSI |
| | | |
| 4:00 | **Adjourn** | |