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FEATURE ARTICLE

STANDARDS 2004: THE YEAR IN REVIEW

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Introduction: Standards stories tend to be serials rather than specials. True, some stories relate to singular events, but many others play out over time, even if the media first catches on to them as a result of a specific event or announcement.

As a result, many of the most important standards stories cross our awareness like a ship that first appears small on the horizon, but then gradually looms larger, until it eventually subsides once again into insignificance. This eventual loss of news value is as often due to success (and therefore creeping blandness) as failure (and consequent lack of new material to sustain interest).

Due to this dynamic, the standards "newsscape" may best be visualized as a series of overlapping wave forms, each comprising a related series of events linked by a common theme, conflict or process. At any particular point in time, a given story has variously great or low amplitude, depending at what stage of the news cycle that story then exists.

Viewed from this perspective, 2004 offered a broad range of sagas in all stages of maturity, as well as a number of discrete events of significance. Some stories that were hot in 2003, such as SCO's attack on Linux, gradually sank out of sight as 2004 progressed. Others, such as the ongoing (and classic) standards war over proprietary DVD formats between the Sony-led HD-DVD camp and the Blu-ray Group headed by Toshiba and NEC, continued unabated. At year's end, this conflict was approaching a climactic crescendo as content owners finally began to announce which format they would support in future video releases. And a few new stories of scope and substance emerged as well, such as a burgeoning focus on the standards that will enable the pervasively networked home of the future to become a reality.

Summarizing all of the important information and communications technology (ICT) standards news from an entire year in a single article would, of course, be an impossible task. But sampling some of the most interesting and significant ongoing sagas, happily, is not.

The Top Standards Stories of 2004: The following are those trends and stories that we have found to be most interesting this year, and which we think best exemplify the point in news space where standards setting, business and society intersect (and sometimes collide). In the Trends article that follows (That Was the Year that Was: A Standards Diary), you may follow how each of them (and more) unfolded, event by event, as the year progressed.

New Consortia: By our count, at least 29 new consortia were formed in 2004, covering a bewildering array of disciplines. The following are a representative sampling of these new groups and their purposes: **Cyber Security Industry Alliance** (lobby national and state governments to optimize legislation relating to ICT security issues); **Enterprise Grid Alliance** (develop royalty-free enterprise grid computing standards); **Network Centric Operations Industry Consortium** (compile a suite of standards enabling a "network centric," interoperable defense and security environment for the U.S. and its allies), and **Trusted Electronic Communications Forum** (develop standards to combat identity fraud).

And in a novel twist, a **new consortium was spun out of IBM** – based upon a processor that had been the **subject of another consortium** more than ten years ago. That processor is the **PowerPC**, which had been jointly supported at one time by the briefly allied triumvirate of **IBM, Apple and Motorola** early in the 1990s. As part of this alliance, IBM formed the **PowerOpen Consortium** in an effort to establish PowerPC architecture (and displace Windows) on the desktop. That effort foundered when the business strategies of the three companies diverged, and the PowerPC processor became more common in embedded applications than on the desktop.

Now, IBM has spun out a new organization, called **Power.org**, which will serve to open up the Power processor architecture.

To see all stories and press releases on new consortia formed this year, see: www.consortiuminfo.org/news/nc.php

      Intellectual Property: In the patent litigation department, the victories (first) and defeats (later) of **Eolas Technologies** against **Microsoft** provided an reminder throughout the year of how high intellectual property stakes can be, not only for vendors, but for everyone who depends on their products of those products must be withdrawn or redesigned. In January, Microsoft suffered a setback when a Federal court upheld the $521 million dollar penalty awarded by a jury the preceding year. But with a little help from unlikely friend **Tim Berners-Lee**, who sent an open letter on behalf of the W3C to the United States Patent and Trade Office (PTO), the tide began to turn. In February, the PTO agreed to reexamine whether the Eolas patent should ever have been issued. By August, the PTO in fact rescinded the patent.

On the flip side of the Microsoft coin, some became uneasy when Microsoft Chairman **Bill Gates** announced in July that Microsoft had dramatically increased its focus on **patenting new technology**, especially since some believed that elements of that technology, in fact, were old technology (or, in patent terms, had been "anticipated by prior art"). Specific alarums were sounded in relation to **Internet protocols and XML**, and an ongoing spat over **licensing terms** broke out when the **IETF** began to consider an anti-spoofing submission called **Sender ID**, part of which involved code that Microsoft offered under terms that the open source community found to be inconsistent with open source principles, and therefore unacceptable. In September, **multiple open source groups lodged protests** with the IETF, which eventually terminated consideration of the submission. As the year progressed, Microsoft relented on some of these terms, and **AOL** (which had earlier withdrawn support for Sender ID) announced in October that it would support a modified version of Sender ID after all.

And finally, on a note of perhaps dubious pride, the **European Telecommunications Standards Institute (ETSI)** announced in September that its **on-line database of patent assertions** now listed more than **12,500 patents** and patent applications that were alleged by their owners to be infringed by ETSI standards – and would therefore require a valid license.

For all intellectual property news items we selected this year, see: www.consortiuminfo.org/news/ip.php

      Web Services: The steady march of Web services standards, driven primarily by the **Microsoft/IBM/BEA Systems** troika, was another big story from 2003 that continued unabated in 2004 as the **Web services "roadmap"** continued to be filled in with actual specifications. With the conclusion of open hostilities between **Microsoft** and **Sun Microsystems** in April (and the agreement by the former to pay the latter almost **$2 billion in a legal settlement**), Sun became a new member of the cadre of companies from which the Big Three drew supporters for one new proposed specification after another.

As the specification count continued to rise, some analysts (such as the **Yankee Group**) began to see evidence of **increased adoption of Web services** by corporate users, while others **decried the ongoing staccato issuance** of more and more specifications (viz., **Gartner Group's lament** that "yet another standard definition" had been proposed by Microsoft, et al. that would overlap with specification work already underway in OASIS).

For all "Story Updates" items we selected this year, including those on Web Services, see: www.consortiuminfo.org/news/su.php

Open Source: The open source world was dominated by patent jousting, releases of new versions of successful open source software, a determined push into the open source space by some of the largest commercial IT vendors (with one predictable exception), and ongoing adoption by customers, especially in the government market.

In the open source **intellectual property** arena, **SCO Group CEO Darl McBride** dropped off the front pages, while Linux champions and detractors continued to react or exploit (respectively) the already-roiled Linux waters. In the former category, **Novell** announced that it would use its patent portfolio to defend users of its open source products, while **Microsoft** (obviously in the latter camp) announced that it would extend its patent infringement indemnification program to small customers as well as large.

On the **open source software product front**, the continuing progress of **Linux** at home, abroad and in forms optimized for business users (often supported by newly announced consortia) marched to a steady drumbeat that never flagged. And new versions of the open source based, venerable **Mozilla Web browser** were receiving accolades by the end of the year, with some predicting that the browser chasm might someday be crossed from early adopters to mainstream corporate IT departments.

In other litigation news, a Munich, Germany court held a developer liable for violating the terms of the **GNU General Public License (GPL)**, in the first known reported legal case to consider the enforceability of the GPL.

On the corporate support front, **IBM** assisted in the formation of the **Eclipse Foundation** as an independent entity, and industry-supported **Open Source Development Labs (OSDL)** announced that **Carrier Grade Linux** was nearing completion. And even **Microsoft** flirted with open source, releasing **Windows Installer XML** in open source.

For all open source news items we selected this year, see: www.consortiuminfo.org/news/os.php

International: Although United States Secretary of Commerce **Don Evans** released a major report intended to **combat the inappropriate use of standards** to erect trade barriers, the biggest standards story on the international scene was the **emergence of China** as a determined player in the standards world.

The stakes are high for both east and west, as China increasingly represents not only the workshop of the western world, but also an enormous potential market for the products of companies worldwide. At the same time, companies in countries other than China own most of the patents on standards-based technology products. Exacerbating this imbalance is the fact that many of these companies share cross-licensing arrangements that limit, or even eliminate, the payment of royalties between these companies when they manufacture (or subcontract the manufacture of) standardized products. The result is that a Chinese company that wishes to manufacture the same goods on its own account may find that it owes royalties that exceed its profit margin.

The principal standards-based spat reached its highest pitch in the spring, as a Chinese government deadline approached after which only the sale in China of wireless computers that utilize the WLAN Authentication and Privacy Infrastructure, or **WAPI**, would be permitted (and not those that employ the **analogous IEEE 802.11 Wi-Fi standard**).   Not coincidentally, the WAPI standard was developed by the Standardization Administration of China (SAC).   And to make matters worse, the Chinese government would only license a limited number of domestic manufacturers to implement the WAPI standard. Eventually, **China blinked** – but only after intervention at the highest levels of United States government.

Following this face off, China agreed to participate in further international development efforts in the area of Wi-Fi – but also made clear its determination to be a player in international standards development. Or, in the words of a Deloitte Research study, China will seek to "break the hold of developed economies on standards."

For more on this story, see: Breaking Down Trade Barriers: Avoiding the China Syndrome

Security: As was the case in 2003, standard setting for all types of security applications proliferated with gusto. Important work in the area of emergency response was completed and adopted

in many areas by a broad range of organizations, from the **United States Department of Homeland Security** (which adopted five American National Standards describing **first responder protective equipment**) to **OASIS** (which approved a format for exchanging **emergency alerts**).

Government drove many other types of security standards as well. In March, the deadline finally came due for **United States Department of Defense** contractors to adopt **public-key infrastructure (PKI) encryption**, and in August, **President Bush** issued a directive calling for the development and implementation of a **government-wide ID badge**, based on cryptographic, biometric and card reader specifications.

But in 2004 a great deal of standards activity also focused on issues such as **spam, spoofing and other forms of fraud and identity effect**. A veritable algal bloom of new consortia was announced in a brief space of time to address these concerns, including the **Cyber Security Industry Alliance**, the **Trusted Electronics Communications Forum**, and the **Anti-Phishing Working Group**, among others.

For more on end-user security standards, see: <u>Consortia, Standards and the User Experience</u>

RFID and Wireless: As we predicted last year, all things wireless, for deployment anywhere and everywhere, continued to be in the news. Work on a **broad range of new wireless standards** was announced for operation at ranges that varied from a few centimeters (such as those being created by the new **Near Field Communications Forum**) to several miles (such as the **Wi-Max** standard under development at long-time participant **IEEE**), and at an equally broad range of data transmission rates.

The uses for standards-based wireless technologies also continued to expand, as the **United States Food and Drug Administration** approved the **subcutaneous use of RFID tags** in patients, and more and more wireless applications were contemplated for consumer use, bringing, for the first time, the **pervasively networked home** into realistic contemplation. Meanwhile, the **IEEE**, bent on releasing a seemingly endless series of wireless applications without ever using a new base number, announced work on **802.22**, a new standard intended to utilize **unused television spectrum channels** to provide **broadband applications and services** And, lest wireless services not be optimized for every usage scenario, the **German Research Ministry** agreed to help fund a project to optimize wireless LAN technology for **car-to-car communication**.

Still, not everything was well in the wireless space, as **EPCGlobal** found itself embroiled in a difficult internal division over whether or not it could maintain a **royalty-free patent policy***.* And both the **Wi-Fi Alliance** and the **ZigBee Alliance** found it necessary to speak out against vendors bent on releasing products based upon standards that were not yet finalized, raising the certainty of market confusion, lack of interoperability, and (inevitably) unhappy end-users.

For all "Story Updates" items we selected this year, including wireless and RFID stories, see: www.consortiuminfo.org/news/su.php

Who Was Doing What to Whom: Of course, the usual amount of jostling was present in standard setting this year as in any other, both among companies as well as between standard setting organizations. In the **syndication space,** a new **blogging standard** called **Atom** challenged **RSS**, and both companies as well as consortia joined in the fun. **Google**, for example, opted early in the year to support Atom, while the **W3C** made a play for further Atom development activities to take place under its virtual roof rather than that of the **IETF**.

End running existing processes was also a popular sport in 2004, **as Nokia and STMicroelectronics**, for example, decided to bypass a slow-moving process in the Mobile Interface Processor Interface (MIPI) Group and announce their own camera phone feature specification. On a more sanctioned plane, rival proposals also flourished within various standard setting organizations, such as the **IEEE,** whose **"next generation Wi-Fi" 802.11n** development process spawned two rival camps, one styling itself as **the WWISE Consortium.**

But without doubt, the **premier standards battle of the year** was the ongoing battle that continued to rage throughout the year between the **HD DVD camp** and the **Blu-ray Group.** As was the case in the **VHS/Betamax** struggle between many of the same companies decades before, the prize in this battle is

the dramatically increased value that the patents underlying the winning format for the next generation of consumer video players will hold for their owners.

In the early stages of this battle, the struggle was to convince other device vendors to join one camp or another. But as each side approaches the commercial launch of actual products (the first video players based on the new formats are expected to ship 2005), the action shifted to the owners of the content that will be sold on the new generation of DVDs. Ultimately, it is this group of companies that will decide whether or not they will invest in the transfer of content on to DVDs of one format, the other, or both.

As this end game began to unfold, the major content owners began to announce their decisions. Throughout the second half of the year, the apparent advantage passed back and forth in most dramatically when Blu-ray leader Sony announced that it would be the majority purchaser of **Metro-Goldwyn-Mayer**, and its vast library of films. As of this writing, the HD-DVD camp has won commitments from **Twentieth Century Fox, Paramount Pictures, Universal Pictures, New Line Cinema and Warner Bros. Studios**, among others, while Blu-ray Group supporters include **Disney** and **Buena Vista Home Entertainment** in addition to Metro-Goldwyn-Mayer.

Consumers, as well as video shop owners, will learn next year whether the full debacle of thirty years ago will be repeated, or whether a clear winner will emerge and avoid closets and attics filling up once again with abandoned devices and movies based on the format that ultimately loses the war.

For all news items we selected related to the rough and tumble of standard setting, see: www.consortiuminfo.org/news/wdww.php

> ***Innovation:*** Innovation was in interesting concept in 2004, as some commentators began to ask whether the **proliferation of XML schema** had gone much too far. But generally, innovation was not only alive and well, but welcomed in the press and the marketplace.

Besides those already mentioned above, there were a variety of new standards efforts launched that were worthy of note for their novelty, importance or (in some cases) peculiarity. **The International Electrotechnical Commission**, for example, began work on compatibility standards to facilitate the use of the new **miniature fuel cells** now nearing commercial availability for use in **cell phones and other hand held devices.** And the **American National Standards Institute (ANSI)** formed a panel to coordinate standards development in the burgeoning area of **nanotechnology**.

As interest in the **digital home** increased, a new consortium (naturally) was formed was formed to facilitate the development of standards in this area, called the **Universal Home Application Programmer Interface Forum** (we think that its official acronym (UHAPI) cries out for a terminal question mark).

And in the peculiarity department, perhaps most scratched their heads when they learned on July 30 that **NIST's latest Standard Reference Material** existed in the form of **five bottles of frozen, homogenized trout from Lake Superior**.

> ***Standards and Society:*** The impact of standards on all aspects of life and commerce was evident in news of every description during the year, from the **testimony** of United States Homeland Security Secretary **Tom Ridge** before the Senate 9-11 Commission that **standards are critically important to emergency preparation and response**, to the announcement by **IEEE** that it had completed a **standard for automobile "black boxes"** with a purpose similar to those carried by commercial aircraft.

Several reports released by NIST also emphasized the **enormous savings** that standards development and adoption can have for diverse businesses. And increasingly, the **life sciences** began to turn to standard setting to facilitate research and "avoid fragmentation" in the area.

Not all might view the impact of standards on society as being an unmitigated blessing, however, as they read that the **Consumer Electronics Association** plans to develop a standard (for better or worse) to permit people to yell into their **cell phones in aircraft**, or that **NIST** had created a performance standard to facilitate the use of improved **"across-the-road" speed trap radar equipment**.

To see all news items we selected this year on the intersection of standards and society, see: www.consortiuminfo.org/news/sitw.php

Events and Honors: The year also saw its share of notable discrete events. For example, **Bluetooth** creator and promoter **Ericsson's** announcement in September that it would **discontinue the design and manufacture** of devices based on that standard caught many by surprise. The **10th anniversary of the W3C**, in contrast, was an anticipated opportunity for celebration.

Other events recognized not only achievement, but the importance that standards and standard setting organizations play in the modern world. In May, **Software Development Times gave six out of ten awards to consortia and open source projects** in its "Best of the Best" category for those who exercised "the greatest influence in raising the bar". Well-deserved kudos (and a significant monetary prize) also went to **World Wide Web creator Tim Berners-Lee**, who received the first **Millennium Technology Prize** (and $1.23 million) from the Finnish Technology Award Foundation.

Summary: And so there you have it – a brief summary of twelve months and hundreds of stories about good work, bad behavior, and even a bit of international intrigue. Find out what 2005 will bring by making a visit to the ConsortiumInfo.org standards News Portal a part of your daily routine.

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