



# A Standards Quality Case Study: The W3C

Arnaud Le Hors

Program Director, Standards and Emerging Markets

Open Source and Standards Project Office

[lehors.wordpress.com](http://lehors.wordpress.com)



# Business values of open standards

- **Choice** - *The choice I make today doesn't limit the choices I can make in the future*
- **Flexibility** - *Solutions can connect to internal departments and external partners that made different technology choices*
- **Integration** – *Solutions can involve multiple hardware and software components*
- **Speed** – *Faster development and quicker adjustment to changing business parameters (new opportunities, new partners, new employees)*
- **Skills** - *Skilled resources can be more easily found and reused*
- **Freedom** - *Resources can be freed to focus on higher-value*
- **Enabler** - *Market opportunities expand as the standards proliferate*

# The effect of open standards

- Standardization drives interoperability and breaks the old-style dependence on proprietary methods and trade secrets.
- This builds a strong foundation on which others can quickly build and innovate.
- When the playing field gets leveled in this way, we get increased competition with new people and ideas entering the marketplace.
- Standardization is scary to those who are afraid of losing marketshare or cannot execute well in such an open world.

# Running joke in the Standards Community

*“The wonderful thing about standards is that there are so many of them to choose from.”*

Grace Hopper, American computer scientist in the US Navy

# Complexity of the standards landscape

- Different divisions:
  - Software vs Hardware
  - Horizontal/Infrastructure vs Vertical/Industry
- Different approaches:
  - Top down vs Bottom up
- Different stake holders:
  - Vendors
  - Customers
- Different organizations:
  - Industry consortia
  - *de jure* standards organizations
  - Ad hoc groups

# Increasing Challenge

- Increasing importance of standards leads to more and more standards organizations and more and more standards
- Different areas are converging (e.g., software & hardware)
- Raises several questions:
  - How does one choose which standards to use?
  - Are all standards equal?
  - How does one differentiate “good standards” from “bad standards”?
  - ...

# Criteria for Quality Open Standards

- Openness
  - Was the standard developed by an independent community of experts in a way that did not advantage any specific party?
  - Is the standard maintained by an independent community of experts?
  - Is the standard document freely available to everyone?
  - Is the standard freely implementable by everyone?
- Does the standard leverage modern best practices and pre-existing high quality standards?
- Consistency
  - For example, does it define a single way for representing an address, or use the same units for all sizes?
- Implementability
  - Was the standard fully implemented by several independent parties?
- Proof of achievement of interoperability or portability
  - Has achievement been proven with actual implementations?
  - Does the standard come with a test suite that developers can use to help them ensure compliance?

# ODF vs OOXML Comparison

	<b>OOXML</b>	<b>ODF</b>
Developed by an independent community?	No	Yes
Actively maintained by an independent community?	No	Yes
Freely available?	Yes	Yes
Freely implementable?	No	Yes
Leverages best practices and high quality standards?	No	Yes
Consistent?	No	Yes
Fully implemented by several independent parties?	No	Yes
Proven to achieve interoperability/portability?	No	Partial*
Comes with a test suite?	No	Partial**

\* Some tests from OpenDocument Fellowship, rating some ODF implementations, OASIS getting more involved, "ODF Interoperability Camps" at the OpenOffice.org Conference

\*\* Some work done at the University of Central Florida on full test suite on the ODF 1.2 spreadsheet functions is available

# Criteria for Quality Standards Development Organizations

- Transparency
  - Can anyone know what is going on in the organization?
- Openness
  - Can anyone participate?
- Patent Policy
  - Is there a clearly defined policy?
  - Does the policy require disclosure?
  - Does the policy favor Royalty Free?
- Consistency, Precision, Rigor
  - Is the development process consistent, precise, rigorous?
- Decision mechanism
  - Is the decision mechanism democratic?



## What is Ecma's value?

A proactive, problem solving **experts' group** that ensures **timely** publication of international **standards**;

Offers industry a "**fast track**", to global standards bodies, through which **standards are made available on time**;

Balances Technical Quality and **Business Value**:

- Quality of a standard is pivotal, but the balance between timeliness and quality as well: Better a good standard today than a perfect one tomorrow!
- Offers a path which will **minimise risk of changes** to input specs
- Solid IPR policy and practice

Ecma can be viewed as a reconfigurable hub of TCs

# W3C

## ***Mission:***

***To lead the World Wide Web to its full potential by developing protocols and guidelines that ensure long-term growth for the Web.***

- *W3C refers to this goal as “Web interoperability.” By publishing open (non-proprietary) standards for Web languages and protocols, W3C seeks to avoid market fragmentation and thus Web fragmentation.*
- *a vendor-neutral forum for the creation of Web standards.*
- *W3C Members, staff, and Invited Experts work together to design technologies to ensure that the Web will continue to thrive in the future, accommodating the growing diversity of people, hardware, and software.*

# W3C's Recommendation Development Process

## Typical development of a W3C “standard”

- 1 Member or Team Submission
- 2 Development of a charter / Creation of a Working Group
  - Vote from Members + call for participation
- 3 Publication of Member-only and Public Working Drafts (WD).
- 4 Last Call announcement.
  - WG believes all requirements are fulfilled
- 5 Publication of a Candidate Recommendation (CR)
  - Call for implementations
- 6 Publication of a Proposed Recommendation (PR).
  - Call for review
- 7 Publication as a Recommendation (REC).

# W3C's Recommendation Development Process (cont)

- Alternate ending
  - Working Group Note
  
- Return of a Document to a Working Group for Further Work when:
  - the Working Group makes substantive changes to the technical report at any time
  - the Director requires the WG to address important issues raised during a review or as the result of implementation experience.

# W3C's Decision Process

- *“Consensus is a core value of W3C.”*
- Vote is a last resort when consensus cannot be reached.
  - Everyone has one vote (including invited experts)
- Consensus sets the bar higher than a majority vote.
  - Not only ask whether people agree but also whether anybody dissents
  - Practical way to judge the latter is to ask: “Can you live with it?”
  - Can lead to opposite decision

# W3C's Constant Evolution

- Process is constantly evolving to increase quality and openness
- More and more Working Groups are public
- Technical Architecture Group (TAG)
- Based on the belief that the larger the community the greater the standards produced
- Patent policy evolved from RAND to RF

# Sam Palmisano on Open Source

The Newsweek logo is displayed in white text on a red rectangular background.

- “Open source is a method of tapping a community of experts to develop useful things. It began in software, but applies broadly, and is anything but anti-capitalist.”
- “It can raise quality at reduced costs, and vastly expands opportunities for profit. In a sense, open source fuels innovation much the way science fuels technology. Science is created by communities of experts, whose fundamental discoveries are typically made available to all, including individuals and companies that are able to capitalize on the new knowledge in novel ways.”
- “For IBM, the open-source model is familiar territory, given our long track record in the sciences.”

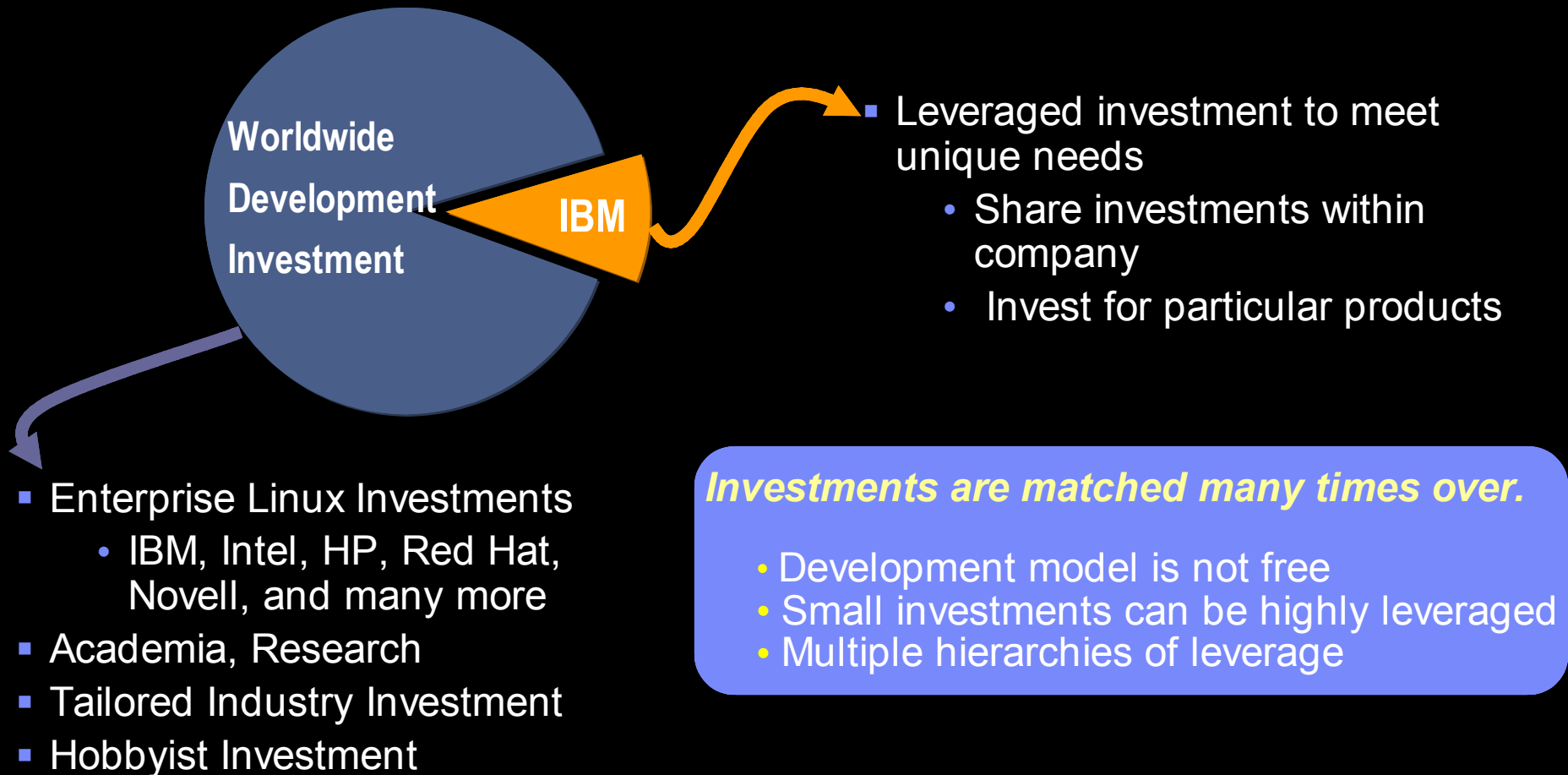
**Source:** Newsweek, December 2<sup>nd</sup>, 2005 - <http://www.msnbc.msn.com/id/10296176/site/newsweek>

# Community Innovation is key to Open Source

- Community-driven approach to problem solving
- People working across geographical and organizational boundaries to confront today's most pressing challenges
- Enabled by:
  - Open standards
  - New intellectual property practices
  - The Internet and collaborative tools
- It unites perspectives from a host of disciplines to:
  - Rapidly solve business issues
  - Accelerate technological advancements
  - Stimulate economic growth
  - Enable new business models



The sum of community innovations with the Linux operating system far exceed what any single vendor could create



# Open standards development process increases quality

- The benefits of open development apply to standards just as well
- Greater community input with different background, expertise, culture, interest leads to better standards
- Example: SOAP
  - SOAP 1.1 submitted to W3C in 2000 by several members
  - SOAP 1.2 Recommendation published in 2003
  - SOAP 1.2 is recognized by all to be superior

# What does the future look like?

- Competition between standards organizations will increase
  - It will become more and more difficult to recruit members
  - Quality will become a differentiator
  - Standards organizations will need to keep improving
  - The number of ad hoc, community driven, organizations will increase
- Customers will increasingly differentiate products, solutions and services based on the use of "quality open standards".
- Customers will seek unbiased counsel from firms and partners who can help them tell the difference between good quality and good marketing.
- Reliance on traditional de jure standards will probably decrease