The Value of Open Source Software to IT

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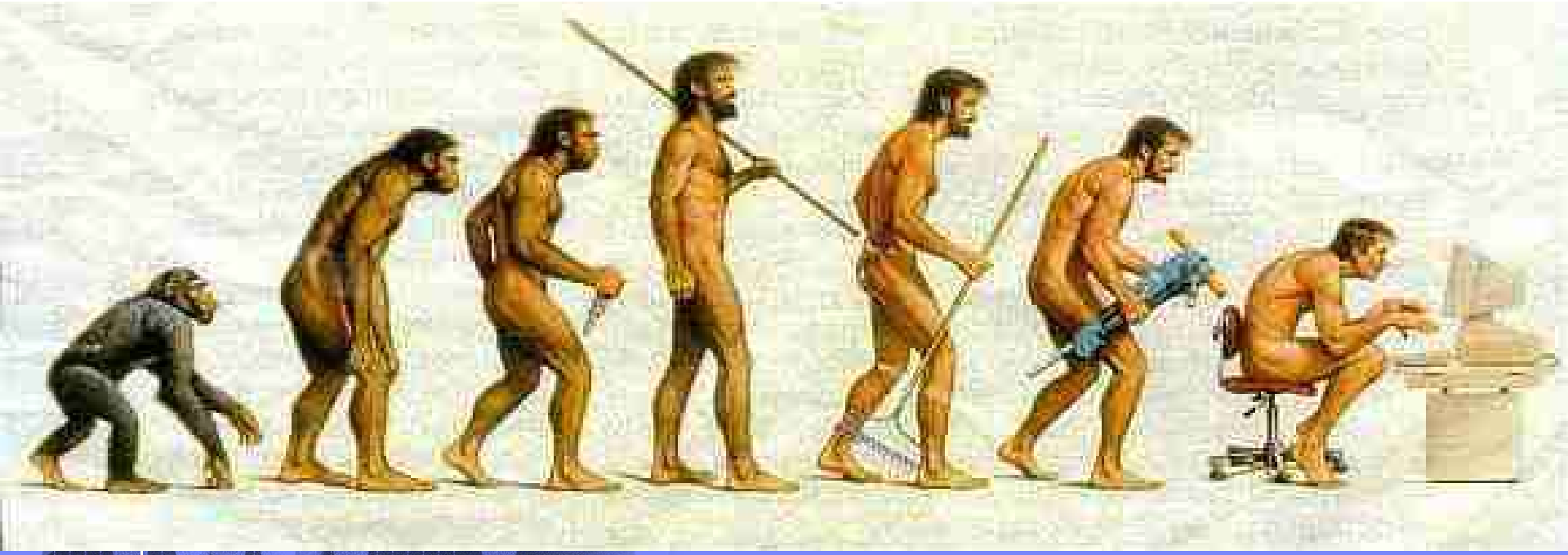
The Open Proposition: Adaptability is vital

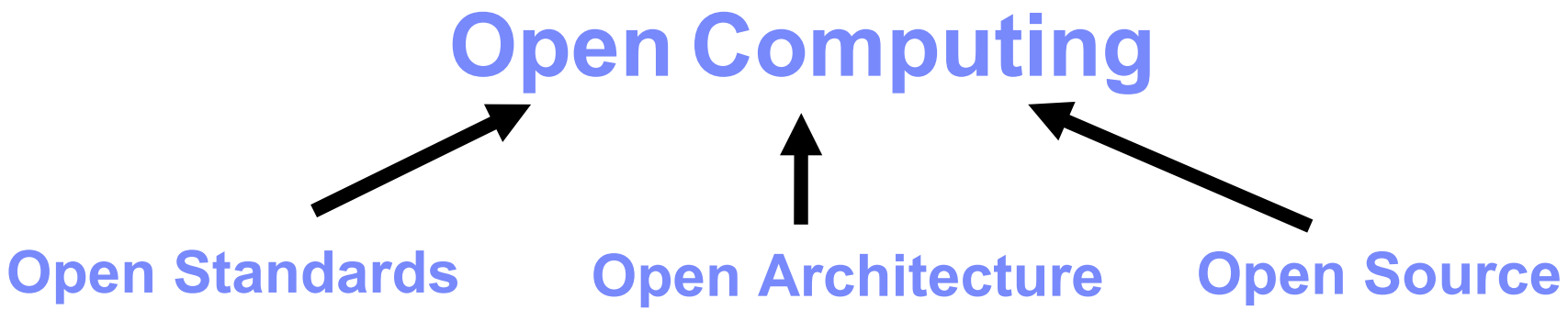
- **"It is not the strongest of the species that survives, nor the most intelligent; it is the one that is most adaptable to change."**
  - Charles Robert Darwin (1809-82)



Open Computing and Open Standards

The Principles of Open Computing

- **Permit interoperability by using published specifications for APIs, protocols, and data and file formats**
- **The specifications must be published without restrictions that limit implementations, or require royalties or payments***



* other than reasonable royalties for essential patents

Open Computing Goals

- Ensure flexibility
- Ensure interoperability
- Avoid vendor lock-in
- Drive cost effectiveness
- Ensure future access to information
- Ensure a level playing field for competition
- Maximize freedom of action

Open Standards

- **Published without restriction***
- **Freely available for adoption by the industry**
- **Control by an open industry organization**
- **Implemented by offerings available in the market**

Standards evolution

Need → Initiator → Core group → Standards body

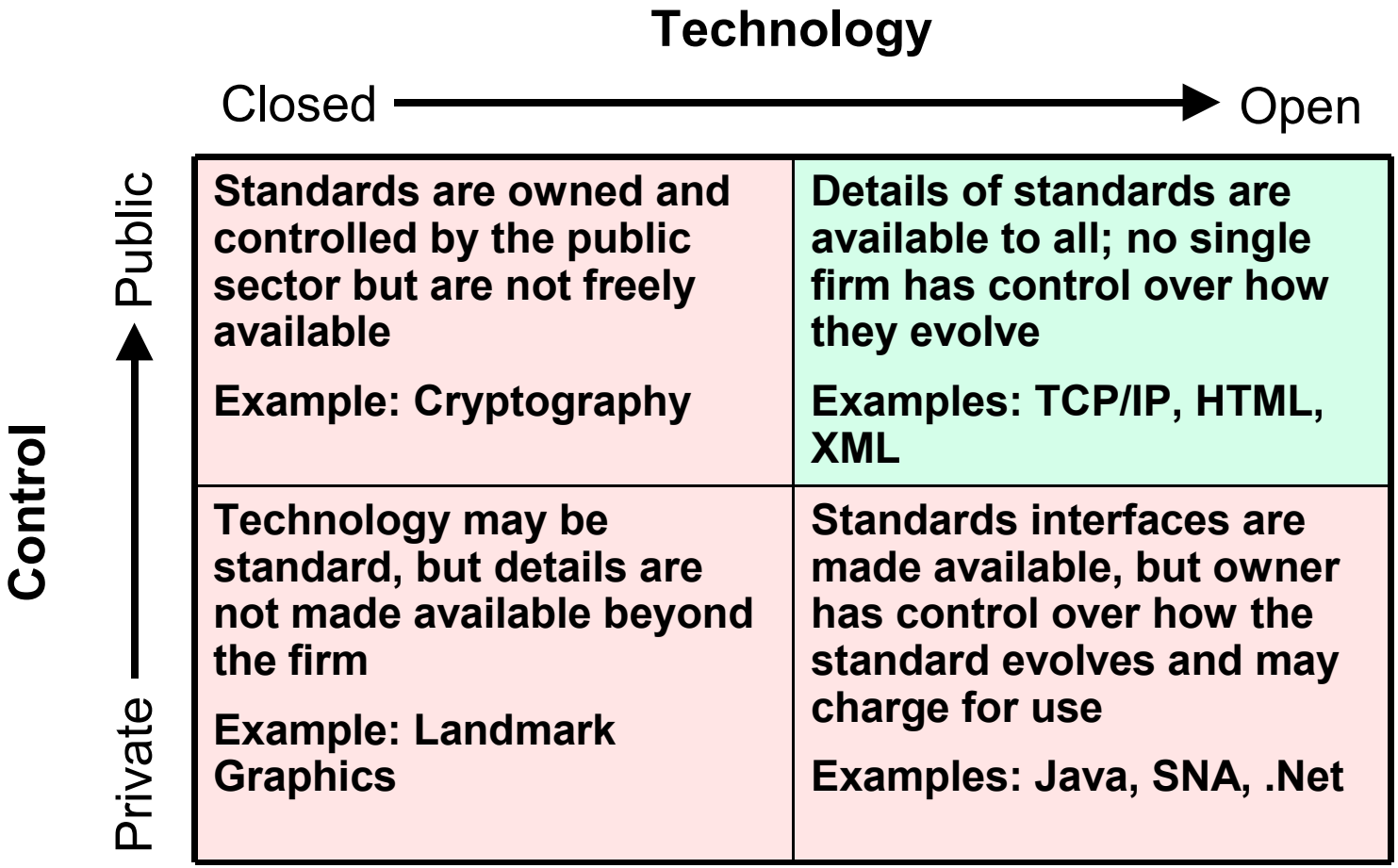
* other than reasonable royalties for essential patents

Evolution to an Open Standard

Need →	Initiator →	Core Group →	Standards Body
Customer need for technical solution to known problem Lack of industry accepted technical solution May be competing technical approaches or single proprietary solution Lack of interoperability	A company, individual or group of companies or individuals agree to address issue Resources devoted to developing best technical solution, often in collaborative fashion	Interested parties publish specifications Specifications publicly available sufficient to enable implementation, interoperability Can be implemented with little or no restrictions; IPR either RAND or royalty-free. Developers may create reference or commercial implementation Developers declare intent to have solution accepted as standard	Standards body reviews technical solution, adopts as standard Specifications publicly available are sufficient to enable implementation, interoperability Can be implemented with little or no restrictions; IPR either RAND or royalty-free. Standards body open to broad participation, open decision making process Standard implemented in competing IT products by multiple vendors.

RAND - reasonable and non discriminatory, commonly used in the copyright policy of standards organizations, defining the licensing conditions when patented technologies are incorporated in standards.

An Important Trend



Open Source

“Free Software?”

- **“It is not about Free. It's about Freedom. The freedom to collaborate. The freedom to innovate.”**
  - Nick Donofrio, IBM
- **“Free software” is a matter of liberty, not price. To understand the concept, you should think of “free” as in “free speech,” not as in “free beer.”**
  - Richard Stallman, Free Software Foundation
- **“Free software is truly free only if your time is worth nothing”**
  - Chris Pratt, IBM

Open Source

www.opensource.org

- **Software whose source code is published and made available to the public**
  - Often built by community
  - Redistribution rights
  - May be a reference implementation of an open specification
- **Open Source software is copyrighted!**
  - OSS is not equivalent to “Public Domain”
- **Over 50 licenses certified by the Open Source Initiative as conforming to the Open Source Definition**
  - Apache, BSD, Common, Eclipse, IBM, MIT, Mozilla, W3C
  - GNU GPL, GNU LGPL

Five principles of Open Source Software

1. **Licensees are free to use Open Source software for any purpose whatsoever**
2. **Licensees are free to make copies of Open Source software and to distribute them without payment of royalties to a licensor**
3. **Licensees are free to create derivative works of Open Source software and to distribute them without payment of royalties to a licensor**
4. **Licensees are free to access and use the source code of Open Source software**
5. **Licensees are free to combine Open Source and other software**

Source: Larry Rosen – Open Source, Open Standards Conference – September 15, 2004

Can OSS co-exist with Commercial Software?

- **Most OSS licenses allow combination and distribution of OSS and commercial source code under a commercial license**
  - Some commonly encountered OSS Licenses (BSD, MIT, X11, Apache) don't require modifications to original OSS to be published upon redistribution
- **GNU General Public License (GPL)**
  - Commercial applications built on Linux can remain commercial
    - Applications can be licensed under commercial license of choice
    - No need to disclose source code of such applications
  - Applications which imbed GPL code must be licensed under the GPL
    - GPL is a “viral” license, referred to as “copyleft” – www.gnu.org/copyleft
- **GNU Lesser General Public License (LGPL)**
  - Libraries can be dynamically linked to commercial code
  - No requirement to release commercial code under LGPL

Benefits, costs and risks of Open Source

- **Benefits may include:**
  - Open licenses and control over the intellectual property
  - Minimizing project start up costs
  - Minimizing supplier license management
  - Supporting skill transfer through technical support across the organization
  - Peer support groups are available on the Internet for free
  - Vendor support is available for a price
  - It avoids lock-in and enables flexibility
  - Collaboration and learning organizations are supported in philosophy and practice
  - It allows cheap prototyping
  - It develops the local industry
  - It increases software reuse across the organization at lower cost which sees a greater return on investment

Source: education.au

Benefits, costs and risks of Open Source

- **Costs may include:**
  - Training costs and other internal support costs
  - Determining which software to use
  - External support costs
- **Risks may include:**
  - There is no single organization with a responsibility for supporting it
  - Ease-of-use features tend to arrive later than for commercial products
  - Uncertainty over intellectual proprietary rights
  - Negative perceptions about open source software
  - Familiarity of users with existing proprietary systems

Source: education.au

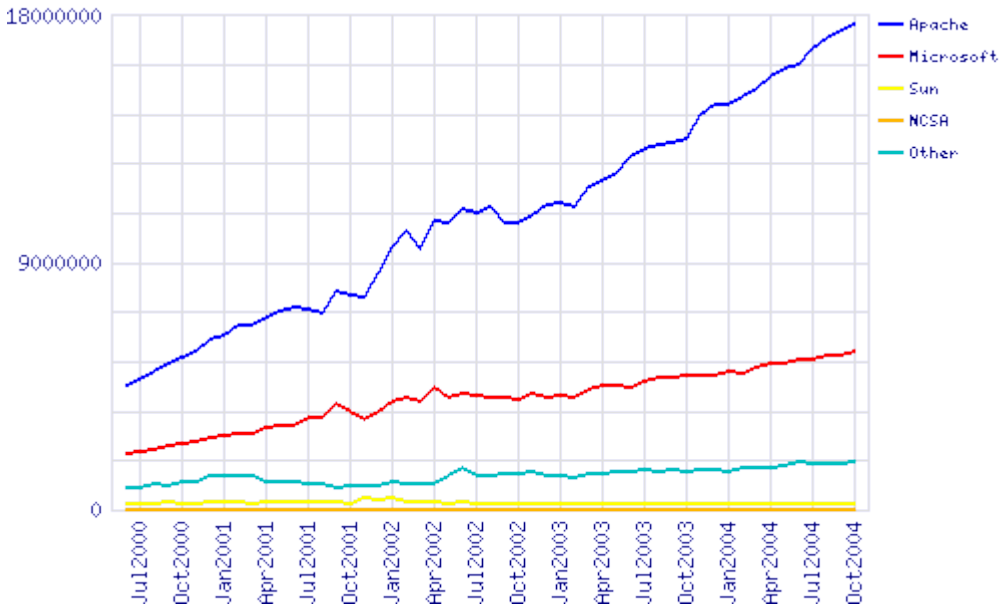
What does marketplace acceptance look like?

- **Customer acceptance continues to grow:**
  - Forrester 9/03 survey of 50 $1B+ North American companies: 70% use Linux and Apache, 72% plan to use more OSS in the future
  - OpenForum™ survey of European CIOs - 86% intend to use Open Source at infrastructure level
  - Coexistence of Open Source and commercial software becoming widely accepted
  - IBM customers increasingly ask for guidance in using Open Source to their advantage
- **Government acceptance:**
  - Many countries issuing policy statements in support of Open Source: Canada, Germany, UK, Australia, India, Sweden
  - Linux Common Criteria certification: IBM and Oracle driving security certification supporting Novell/SUSE and Red Hat

Apache has become the standard Web server

news.netcraft.com

- **Totals for active servers across all domains**
  - Apache
    - Sites: 17,678,722
    - Share: 69.64%
  - Microsoft IIS
    - Sites: 5,766,587
    - Share: 22.72%

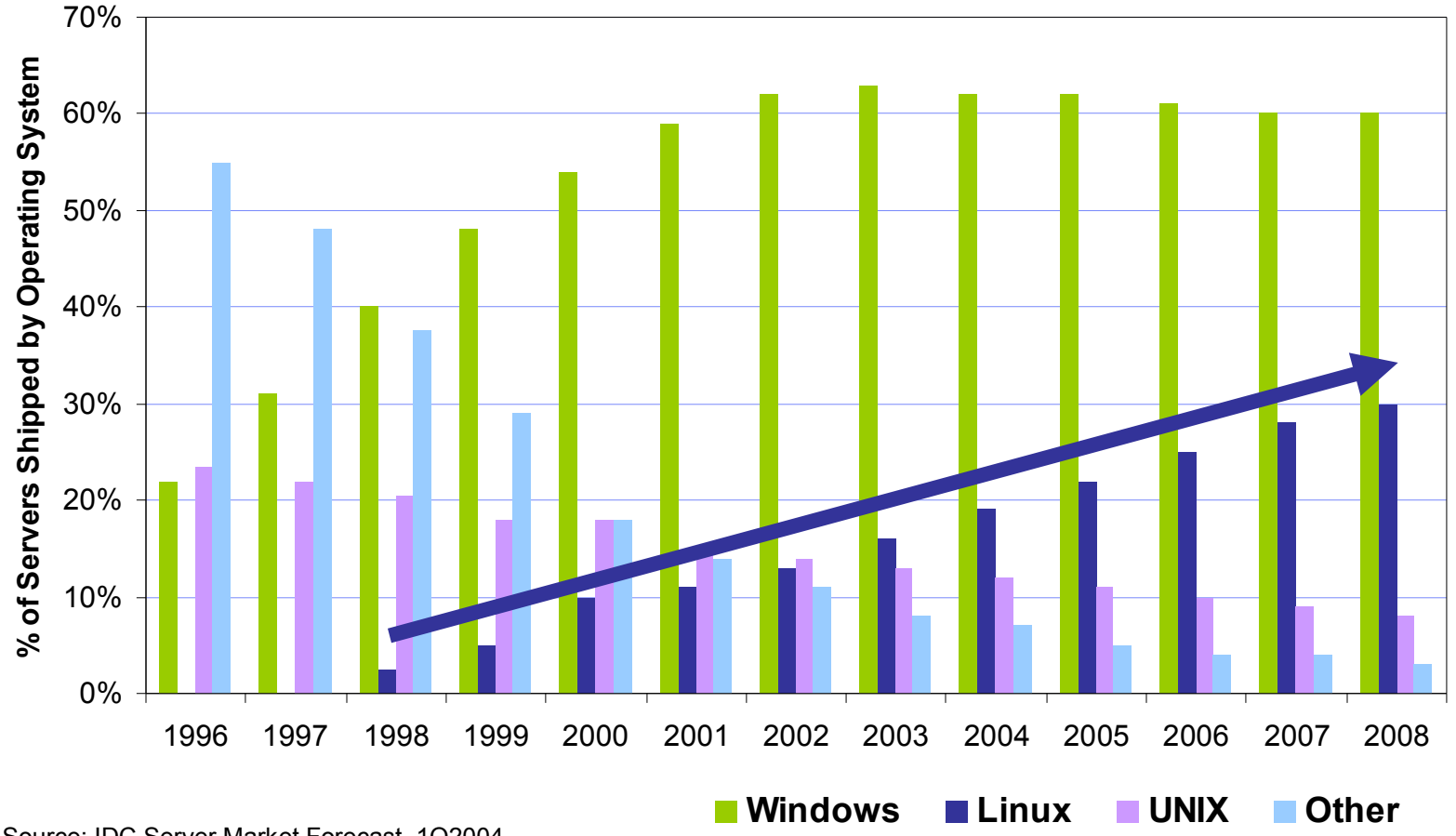


The Apache Software Foundation
http://www.apache.org/

Source: Netcraft – October 2004

Linux changes the server shipment trend

Linux is the fastest growing server operating system



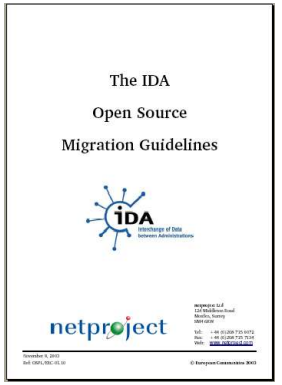
Source: IDC Server Market Forecast, 1Q2004
Note: 2004-2008 data is forecast

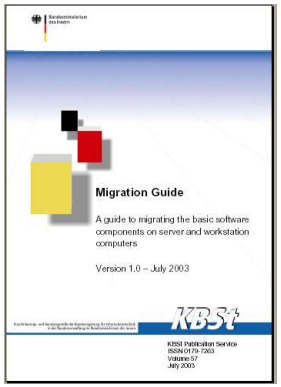
Linux is an industry-wide initiative

www.osdl.org

Open Source strategy world-wide

- **Why Open Source Software / Free Software (OSS/FS)? Look at the Numbers!**
  - www.dwheeler.com/oss_fs_why.html
- **European Commission – The IDA Open Source Migration Guidelines**
  - europa.eu.int/ISPO/ida/export/files/en/1618.pdf
- **German Federal Ministry of the Interior – Migration Guide**
  - www.kbst.bund.de/Anlage303807/pdf_datei.pdf
- **Denmark Board of Technology – Open Source software in e-government**
  - www.tekno.dk/pdf/projekter/p03_opensource_paper_english.pdf
- **Canada Open Source Study – Open Source Business Opportunities for Canada's Information and Communications Technology Sector (ICT)**
  - www.e-cology.ca/canfloss/report/
- **US Department of Defense – A Business Case Study of Open Source Software**
  - www.mitre.org/work/tech_papers/tech_papers_01/kenwood_software/kenwood_software.pdf





Legal issues related to The SCO Group

- **“Since day one, the IBM strategy in The SCO Group lawsuit has been to defend against The SCO Group's unfounded claims vigorously in court. Our belief is that the best way to deal with The SCO Group campaign is where it can truly be resolved – in court.”**

  Bob Samson – Vice President System Sales, IBM

- **Over 50 million civil law suits were filed in the US in 2003!**
- **Novell and Red Hat provide protection**
  - Novell (SUSE): www.novell.com/licensing/indemnity
  - Red Hat: www.redhat.com/software/rhel/assurance
- **IBM, Intel, and others have contributed to the OSDL Linux Legal Defense Fund to protect end-users**
  - www.osdl.org/about_osdl/legal/lldf
- **Discussion and analysis of the “legal” issues around Linux**
  - www.groklaw.net

Reference to any web site in this presentation does not constitute an endorsement by IBM.

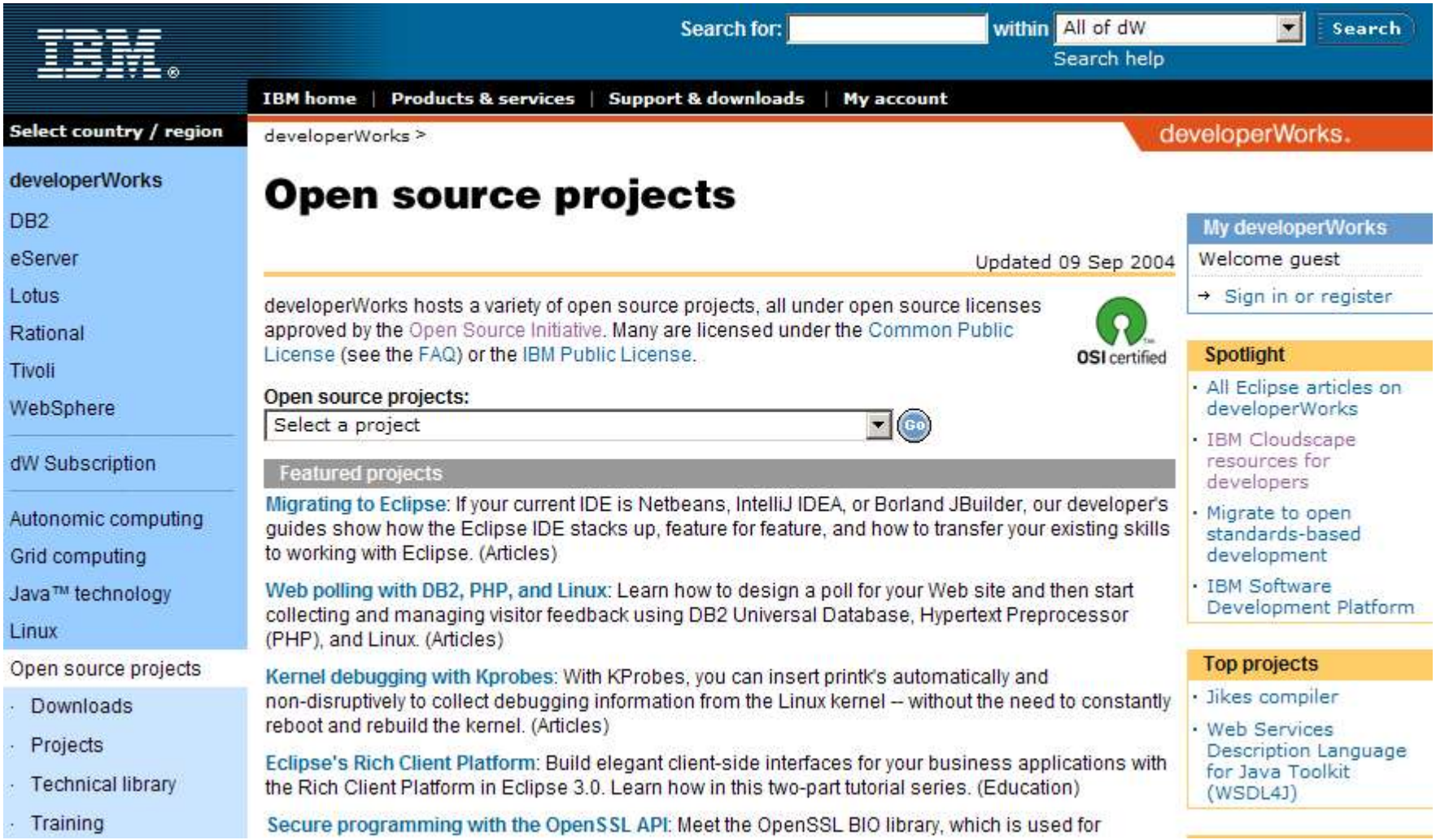
Why does IBM consider Open Source important?

- **Can be a major source of innovation**
  - Innovation can happen anywhere - any time
  - Development through “open communities” leads to potentially broad ideas and creativity
- **Community Approach**
  - Internet has changed how enterprises address technical innovation
  - Shapes technical leaders thinking and approach to broad collaboration
- **Good approach to developing emerging standards**
  - Popular Open Source projects can become de facto / open standards
  - Wide distribution/deployment
- **Enterprise customers are asking for it**
  - Increase choice and flexibility – adoption/use of Open Source can reduce time to market

IBM developerWorks for Open Source

ibm.com/developerworks/opensource

Powered by



Summary

Open Computing policy roadmap

1. Insist on open standards as a matter of policy... be pragmatic about it
2. Focus on interoperable IT systems
3. Avoid procurement of proprietary, non-open standards based solutions
4. Evaluate Open Source solutions on equal footing with commercial solutions
5. Reject mandates or preferences based on development model
6. Insist on open file formats
7. Adopt open computing as an underlying philosophy

Insist on openness, but make pragmatic business oriented decisions based on features, training cost, availability of skill, interoperability and value for money.

Summary

- The IT industry continues to go through major changes – adaptability and flexibility are requisite to respond with speed
- Just as Open Source and open standards were critical to the emergence of the Internet – and first generation e-business… they remain vital to on demand business models
- Commercial, Open Source and hybrid software models all deliver enhanced value to the marketplace
- Decision to Open Source software should be just another business decision

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