Social Requirements as The Balancing Function:

Standardization as a Governmental Policy Tool

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"Standards, IPRs and Competition"

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THE THREE REVOLUTIONS

- **Standardization and Society – A Discontinuity is Occurring**

- **Standardization – A Collapse of the Old Regime**

- **Standardization and Intellectual Property Rights - Business and Social Expectation Changing**

KEY SOCIAL CONCEPTS

- Standards are "Impure Public Goods"
  - Standards have long term social impact
  - The Government MUST <u>manage</u> them to:
    - Prevent private sector from exploiting power
    - Prevent markets from being regulated too much
    - Comply with International trade agreements
- Standards Must Serve Society
  - Permit and encourage societal growth
  - Encourage sharing and spur innovation and economic growth
  - Strengthen National growth and industrial development

KEY STANDARDIZATION CONCEPTS

- Standards Create Markets
  - Market Growth Follows Standards Adoption
    - Stabilized Application and Use
    - Allows Innovation around Standard
  - Can becomes a purchase requirement for/by users
- Standardization can be an Industrial Policy Creator
  - Standardization can set Industrial Policy
    - Determines how standards are created and deployed
    - Can determine Intellectual Property Regimes
    - Can require Mandatory or Optional use of standards
  - Governments can use to advance national interest

"The noisiest of those competitive battles will be about standards. The eyes of most sane people tend to glaze over at the very mention of technical standards. But in the computer industry, new standards can be the source of enormous wealth, or the death of corporate empires. With so much at stake, standards arouse violent passions."

The Economist, 27 February 1993

ICT Standardization

- Information and Communications Technology
  - ICT is "different" from other environments
    - High rate and speed of change
    - Little regulatory use of specifications
  - ICT impacts every industry, every market
- Multiple Standards Setting Organizations
  - Different types of SSOs
  - Different rules and processes
- Very little Government involvement
  - Private sector has the experts
  - Private sector has the motivation

THE DISCONTINUITY – WHAT CHANGED?

- A massively connected world started
  - In the last 10 years, standards and standardization have become important to everyone
  - Interoperation/interconnection are required
- There is no longer the opportunity to "opt out"
  - 3 million people a day "join the Web"
- Now - Millions of devices will be joining the Web
  - "The Internet of Things"
  - 1000 devices per person by 2010
- Based on standards and standardization

WHAT HAPPENED TO STANDARDS

- With standards as the basis of ICT, they became valuable

- ICT Standardization was captured by large vendors
  - Vendors needed to control what happened in SDOs
  - SDOs didn't meet needs
    - Needed faster, easier, better standards
    - Needed like minded companies (partners) at table

- Began to invent new forms of standardization bodies
  - All forms responded to market needs – but <u>which market or whose market</u>

- I believe that this is where the whole system broke

STANDARDIZATION AND SOCIETY

- Five Major Types of ICT SSOs (Process Based)↰
  - Trade Associations, ca. 1900
  - National Formal Organizations, ca. 1930
  - International Formal Organizations, ca. 1945
  - Consortia, ca. 1985
  - Alliances and Commercial Joint Ventures, ca. 1995
- All are "Pay to Play"
- All are controlled by Large Vendors
- Open Source may be reaction to this control

WHAT HAPPENED TO STANDARDS?

- No coordination between organizations
  - Specification may (or may not) interoperate
  - No control of who does what with what

- No common philosophy of management
  - IPR is left to discretion of participants
  - Unfettered capitalism

- No common vision or strategy -Private or public sector
  - Social impact not understood
  - Government role deliberately minimized (US)↰
  - Government role focused on social issues (EU)↰
  - Chinese Government's Role – being determined

WHAT HAPPENED TO STANDARDS?

- Basically, standards and standardization became a place where competition triumphed over cooperation

- Standardization and standards are now used to maintain status quo in the ICT industry

- Process favors the incumbents and the powerful

- Let's look at two examples that are most worrisome:
    - IPR rules and regimes
    - Interface versus implementation standardization

STANDARDS AND IPR?

- In the US, ICT Industry reacted to strengthen status quo by using IPR
  - Explosion of (mostly weak) patents filed
  - Proliferation of IPR embedded in "open" standards
  - Standards bodies increasingly troubled (more and more lawsuits, more and more complications)↰
- Courts (US 3rd Circuit, CFI in Europe) are now starting to redefine standards processes and procedures
- Open Source, ex ante, and Royalty Free IPR regimes are responses to this problem

WHAT HAPPENED TO IPR?

- All IPR in standards is RAND

  - The only question is what "Reasonable" means

- In "Ambiguous RAND", "Reasonable" is whatever the lawyers and courts decide it means

- In ex ante RAND, it means you know before you have to make a decision

- In Royalty free RAND, it means that you don't need to care unless you abuse the grant

- All apply; ex-ante and Royalty free seem to be better for most standards situations

WHAT HAPPENED TO STANDARDS?

- Interface versus Implementation Standardization
- Interfaces (API's, Protocols, Schema)(Stability)↰
  - The *contract* supported by the Implementation
  - An abstraction of implementations
- Implementations (Code)(Innovation)↰
  - The *implementation* of a function
  - Does the work
- "Rough consensus, running code, dual competing implementations" (IETF Mantra)↰

Implementations vs. Interfaces
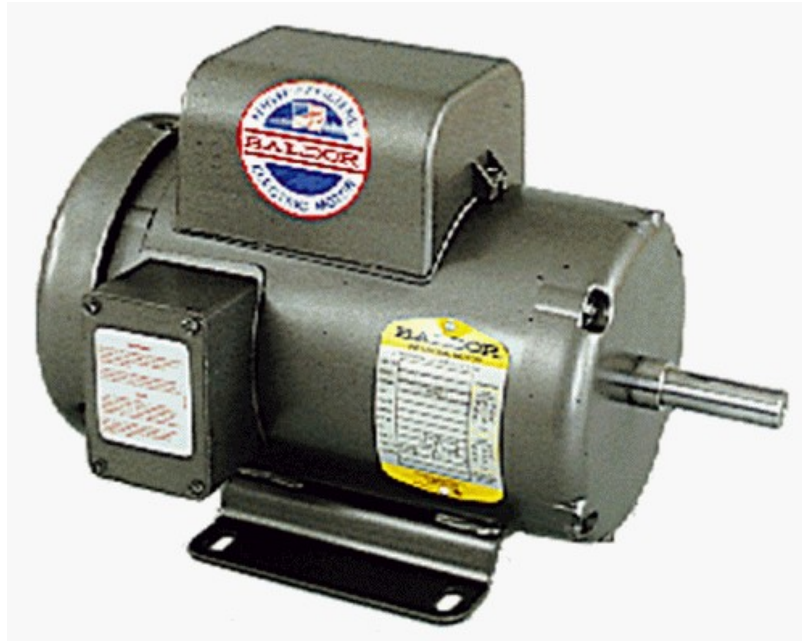
Would you rather own a patent on...?

KEY TECHNICAL CONCEPT

- Interface Standardization is the key to Innovation
  - In the Web world, interfaces should be unencumbered
  - If they are encumbered (IPR claimed), then the cost of using the technology in the interface must be known BEFORE the technology is standardized
- In many cases, acceptable and alternative technological solutions are available with less or no encumbrances

CONCLUSION

- Standards are not about technology
  - They are societal and policy impacting tools
  - They need governmental management to prevent abuses from continuing
- As standards become a policy tool, societal and policy needs will triumph over technology
- New visions are needed – "business as usual" will fail
- Standards are about cooperation, not competition

CONCLUSION, PART 2

- China has the opportunity to redefine:
  - What is "reasonable"
  - When can royalties be claimed in a standard?
  - Does the IPR have value if it's not standardized?
  - How do you determine if IPR is essential or non-essential
  - Does a royalty claim override societal good?
  - Should companies be allowed to compete on standards creation (IPR insertion, proprietary lock ins) or only on implementation of the standard?
  - What is a legitimate standardization organization?
- **China has the opportunity to lead and determine these answers both for China and the world.**

Thank You

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