

Slides for Class #3
ASU Technology Standards Seminar
February 8, 2010
Brad Biddle



Student presentations

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Case study: China

Policy: Role of government

Policy: private stnds & law

IPR: Patent pools

IPR(+): “Openness”

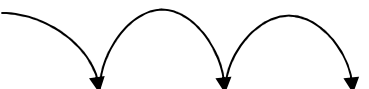
IPR: RAND v. RF

Antitrust

Business strategy / “Why”

Taxonomy / “How”

Introduction



- Student presentations
- Student presentations
- Student presentations
- Case study: China

- Policy: Role of government
- Policy: private stnds & law
- IPR: Patent pools
- IPR(+): "Openness"
- IPR: RAND v. RF
- Antitrust

- Business strategy / "Why"
- Taxonomy / "How"
- Introduction

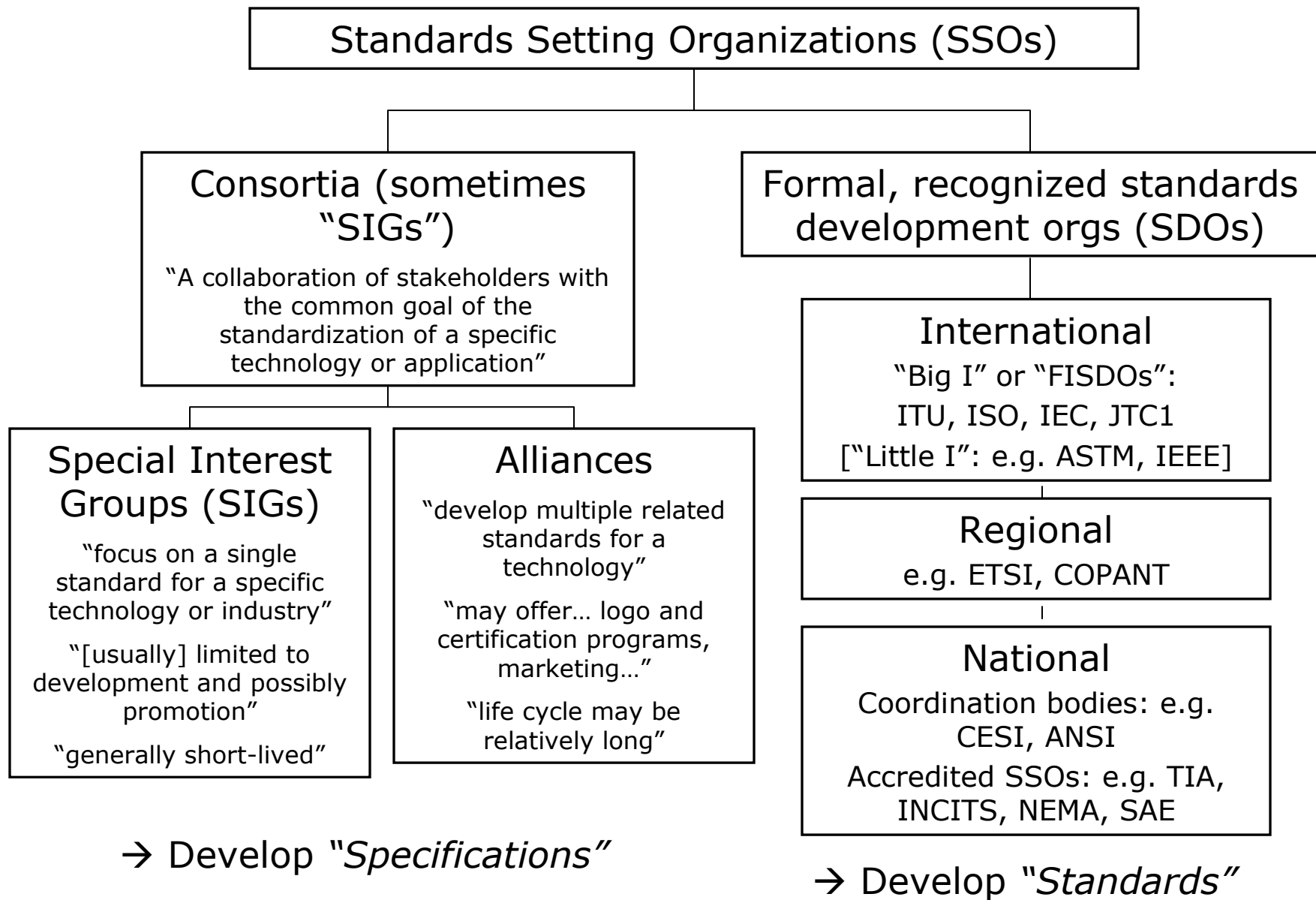
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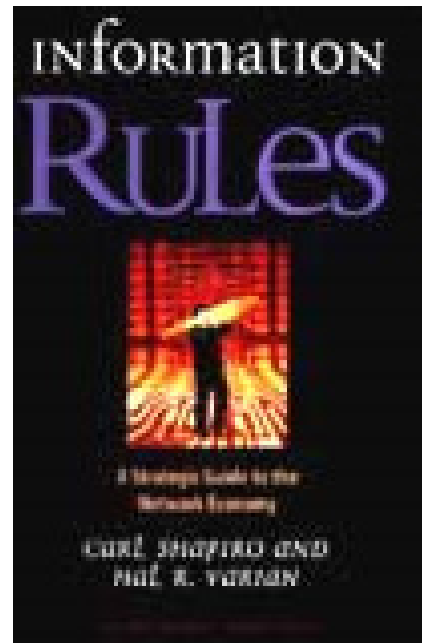
Discussion questions:

1. What would PCI SIG be called in the IPO taxonomy? What is the ITU called in this model? Does EHCI fit in the taxonomy?
2. Which specifications can you access? Which specifications have explicit license terms associated with them? What would you expect the most important “gives” and “gets” of such license terms to be?
3. Imagine that the PCI SIG Board is considering contributing one of its specifications to the ITU, with the goal of the PCI specification becoming an ITU spec. What pros and cons should the Board consider? What are some pros and cons from the ITU perspective? Are there any legal obstacles that would make this difficult?

But first: let's revisit last week's discussion questions



-Based on taxonomy described in *IPO Standards Primer* (Sept. 2009)



Readings: Shapiro and Varian, *Information Rules* (1999)

<http://www.inforules.com/>

Systems of Products

- Complementary products
 - Hardware/software
 - Client/server
 - Viewer/content
- Product lines
 - High fixed cost, low incremental cost
 - Leads to value based pricing

Information Rules

2

Spring 98

Lock-In and Switching Costs

- Example: Stereos and LPs
 - Costly switch to CDs
- Systems lock-in: durable complements
 - Hardware, software, and wetware
 - Individual, organizational, and societal

Information Rules

10

Spring 98

Network Effects

- Value depends on number of users
- Positive feedback
 - Fax (patented in 1843)
 - Internet (1980s)
- Indirect network effects
 - Software
- Expectations management
 - Competitive pre-announcements

Information Rules

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Basic Strategies

- Go it alone
- Partnerships (Java)
- Formal standard setting
 - Widespread use
 - Licensing requirements
- Competition *in* a market or *for* a market?

Information Rules

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Spring 98

Igniting Positive Feedback

- Evolution
 - Give up some performance to ensure compatibility, thus easing consumer adoption
- Revolution
 - Wipe the slate clean and come up with the best product possible

Information Rules

10

Spring 98

Openness v. Control

- Your reward = Total added to industry x your share
- Value added to industry
 - Depends on product *and*
 - Size of network
- Your share
 - Depends on how open

Information Rules

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Lessons

- Positive feedback means strong get stronger and weak get weaker
- Consumers value size of network
- Works for large networks, against small ones
- Consumer expectations are critical
- Fundamental tradeoff: performance and compatibility

Information Rules

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Lessons, continued

- Fundamental tradeoff: openness and control
- Generic strategies
 - Performance play
 - Controlled Migration
 - Open Migration
 - Discontinuity
- Lessons of history

Information Rules

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Spring 98

How Standards Change the Game

- Expanded network externalities
 - Make network larger, increase value
 - Share info with larger network
 - Attracts more users
- Reduced uncertainty
 - No need to wait
 - In war, neither side may win

Information Rules

2

Spring 93

Change Game, cont'd.

- Reduced consumer lock-in
 - Netscape's "Open Standards Guarantee"
- Competition *for* the market v. competition *in* the market
 - Buy into an open standard, that becomes closed?
 - DJIA

Information Rules

3

Spring 93

Change Game, cont'd.

- Competition on price v features
 - Commoditized products?
- Competition to offer proprietary extensions
 - Extending a standard
 - Ethernet 10 v 100
- Component v systems competition
 - With interconnection, can compete on components

Information Rules

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Spring 93

Lessons

- Competition requires allies
- How does your standard affect competition?
- Standards benefit consumers and suppliers, at expense of incumbents and sellers
- Formal standard setting adds credibility
- Find natural allies

Information Rules

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Lessons, continued

- Before a battle, try to negotiate a truce
- Try to retain control over technology, even when establishing an open standard

Information Rules

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Key Assets

- Control over an installed base
- Intellectual property rights
- Ability to innovate
- First-mover advantages
- Manufacturing
- Strength in complements
- Reputation and brand name

Information Rules

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Spring '99

Two Basic Tactics

- Preemption
 - Build installed base early
 - But watch out for rapid technological progress
- Expectations management
 - Manage expectations
 - But watch out for vaporware

Information Rules

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Spring '99

Lessons

- Understand the type of war
 - Rival evolution
 - Rival revolution
 - Revolution v Evolution
- Strength depends on 7 critical assets
- Preemption is a critical tactic
- Expectations management is critical

Information Rules

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Lessons, continued

- When you've won the war, don't rest easy
- If you fall behind, avoid survival pricing

Information Rules

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Spring '99

**PLATFORM OWNER ENTRY AND INNOVATION
IN COMPLEMENTARY MARKETS:
EVIDENCE FROM INTEL**

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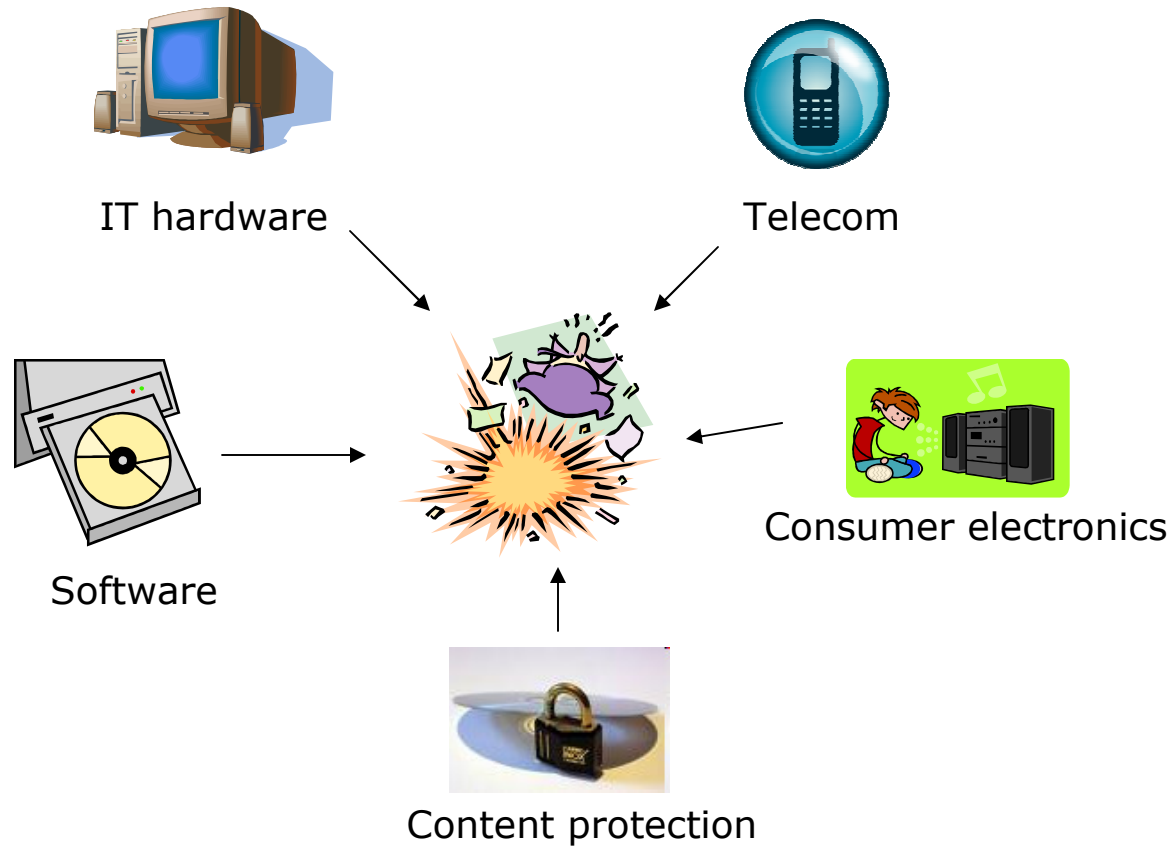
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=872715
<http://platformleadership.com/articles/platformentry.pdf>

Platform leadership: The story of Intel

Intel's transition from a simple component maker, supplying microprocessors for system architectures to a major source of influence in the evolution of PC architecture and subsequently its rise as the platform leader is truly awe-inspiring. Its story is the only one of its kind as there is no other company which has dedicated much of its thoughts and resources to issues which would not only improve its own performance, but of everyone participating in its industry while preserving its leadership position.

-- Gawker & Cusumano, *Platform Leadership* (Harvard Business School Press, 2002)

<http://www.platformleadership.com/articles/Case%20Folio.pdf>



Different standardization *IP models, institutions, practices and cultures*

Pure R&D firm	Integrated firm	Pure manufacturing firm
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Easy:

- (1) No commitment
- (2) RAND

Hard strategic decision

Recoup R&D costs via product sales, licensing, or both?

Easy: RF

Business strategy and IP strategy are inexorably linked