ISM 50 - Business Information Systems

Lecture 16

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Class announcements

- **Reading for Tuesday (Nov 25):**
  - Akamai Case

- **Student Presentations Tuesday (Nov 25):**
  - Krystal Randentz (Akamai Case)
  - Ryan Okrant (Home Depot)
Student Presentations

Kian Fattahi (Business paper)
Jack O'Neill (Business paper)
Standardization

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Purpose of a standard?

- Allow products or services from different suppliers or providers to be interoperable
Scope of a standard

Included:
- interfaces (physical, electrical, information)
- architecture (reference model)
- formats and protocols (FAP)
- compliance tests (or process)

Excluded:
- implementation
- (possibly) extensions

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Some issues

Once a standard is set

- becomes possible source of industry lock-in; overcoming that standard requires a major (~10x?) advance
- may lock out some innovation

In recognition, some standards evolve

- IETF, CCITT (modems), MPEG
- backward compatibility

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Types of standards

*de jure*
- Sanctioned and actively promoted by some organization with jurisdiction, or by government

*de facto*
- Dominant solution arising out of the market
- Voluntary industry standards body

Industry consortium
Common or best practice

Examples?
Examples

*de jure*
- GSM, ISDN Telephone interface

*de facto*
- Microsoft Windows API (Application Programming Interface)
- Intel Pentium instruction set,

Voluntary industry standards body
- IEEE (Institute of Electrical and Electronic Engineers)
- IETF (Internet Engineering Task Force)

Industry consortium
- W3C (World Wide Web Consortium)
- SET (Secure Electronic Transactions)

Best practice
- Windowed GUI

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The changing process

- As technology and industry move more quickly, the global consensus standards activity has proven too unwieldy
  - e.g. ISO
- “New age” standards activities are more informal, less consensus driven, a little less political, more strategic, smaller groups
  - e.g. OMG, IETF, ATM Forum, WAP
- Programmable/extensible approaches for flexibility
  - e.g. XML, Java

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Reasons for change

- From government sanction/ownership to market forces
  - Increasing fragmentation
  - Importance of time to market

Greater complexity

- Less physical/performance constraint for either hardware or software
Lock-in

(Particularly open) standards reduce consumer lock-in

- Consumers can mix and match complementary products

Increase supplier lock-in

- Innovation limited by backward compatibility
- e.g. IP/TCP, x86, Hayes command set

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Aside: Network Effects

- The value of owning some products goes up if lots of other people have it too.
  - Examples?

- This phenomenon is called “network effects”

- How do standards influence network effects?
Network effects

Standards can harness network effects to the industry advantage

- Revenue = (market size) \times (market share)

Increases value to customer

Increases competition

- Only within confines of the standard
- But forces customer integration or services of a system integrator
**Why standards?**

*de jure* are customer driven to reduce confusion and cost

*de facto* standards are sometimes the result of positive feedback in network effects

Customers and suppliers like them because they
- increase value
- reduce lockin

Governments like them because they
- promote competition in some circumstances
- May believe they can be used to national advantage
Approaches

Consensus
- ISO

Collaborative design
- MPEG

Competitive “bake off”
- IETF

Coordination of vendors
- OMG
Open vs. Proprietary Standards

- Open standard - a standard that is well documented, unencumbered by intellectual property rights and restrictions, and available to any vendor.

- What are the advantages?

- What are the disadvantages?
Why companies participate

Pool expertise in collaborative design
  - e.g. MPEG
Have influence on the standard
Get technology into the standard
  - Proprietary, with expectation of royalties
  - Non-proprietary
Reduced time to market

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Standards applied to Business Processes?

- Can you standardize business processes?

Yes!

- ISO 9000
  - A set of standardized business processes for Quality Management.
  - Supports TQM (Total Quality Management)

- RosettaNet
  - A set of standardized business processes, and accompanying standardized data interfaces/formats for conducting e-business.
mySQL

What does mySQL make?

How Successful is mySQL?
- Visibility: Fortune magazine, more mentions on www
- Reaction from giants
- Revenue growth 2001 700k, 2002 6.2m, 2003 10m
- Good performance reviews
- Recent SAP alliance
- But Market share tiny:
  - $10 million out of $10 billion market!

Why Success?
- Good Technology
- Large DBMS bloated with features most don’t need
- Innovative OSS model
MySQL

How does OSS work?

Two Types of License:

- **GPL**
  - Free
  - No Support
  - Any software that uses MySQL as a module must itself be made GPL

- **Commercial License**
  - Support
  - Could be distributed with non-open source software
  - Not Free:
    - MySQL: Classic $250, Pro $495 (for ~ 50 users)
    - Compare to:
      - MSFT $3150 single proc for 50 users
      - IBM $33000 single proc for 50 users
      - Oracle $40000 single proc for 50 users
Aside: DB’s in different software stacks

- Which companies are competitors?
- Which are complimenters?
- Which are both!?