Standardisation

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Standards
Compilation of Problem Statements

- It takes too long
- “Fat” standards
- Too many choices in some, none in others
- Overlapping purposes and functionality
- “The market decides” vs. Public authority intervention (incl. mandates)
- Competition: positional good v. common good
- Creating needs versus serving needs
- Stakeholdership and stakeholder balance
- From “Complex communication & coordination” to “There are no rules”
- Regional vs. International
- Versioning and Maintenance
Harmonization: Three General Approaches

- An overarching solution: whose?
- Building interfaces: but $N \times (N-1)$
- Federation - sharing of a common core: but what constitutes the common core and how do the parts link to the core?
- All cases: management, coordination and resourcing issues
Example Standards Fora

SOA related

- IETF (Internet)
- W3C (XML and core Web Services)
- OASIS (Web Services)
- WS-I (Web Service profiling and interoperability)
- OSOA (SOA)
- JCP (Java and Middleware Technologies)
- OMG (Middleware)
- WfMC (Workflow)

Source: F. Kudorfer, NESSI COSTA
“Standards” for SOA

- Messaging: SOAP 1.1 and SOAP messages with attachments
- Service interface definition: WSDL 1.1
- Interoperability: WS-I basic profiles 1.0 and 1.1
- Security: WS-Security and WS-I basic security profile
- Orchestration: BPEL4WS
- Registry/metadata: UDDI, WS-Policy, WS-Metadata
- Advanced security: Kerberos (combined with SOAP with attachments), WS-SecureExchange, WS-SecurityPolicy, WS-SecureConversation
- Workflow: BPEL4WS extended for people, WS Choreography, WS Eventing
- Management: WS-Distributed Management, WS-Management
- Reliable messaging: WS-ReliableMessaging, WS-RM Policy
- Service Bus/Middleware: JBI, SCA
- ....
## Example Industry sector consortia

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Sector</th>
<th>Main Deliverables</th>
</tr>
</thead>
<tbody>
<tr>
<td>AECMA</td>
<td>Aerospace &amp; Defence</td>
<td>Specifications for products, quality systems &amp; product support</td>
</tr>
<tr>
<td>AIAG, ODETTE, JAMA</td>
<td>Automotive</td>
<td>B2B semantics &amp; specifications for automotive value chain, data transmission protocols (notably OFTP)</td>
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<tr>
<td>APME</td>
<td>Plastics</td>
<td>Product classification</td>
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<tr>
<td>CEC</td>
<td>Footwear</td>
<td>FINET Specs</td>
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<tr>
<td>CECED</td>
<td>White Goods</td>
<td>EDIWhite, EDI Service, IRIS Coding</td>
</tr>
<tr>
<td>CIDX</td>
<td>Chemical</td>
<td>Chem eStandards</td>
</tr>
<tr>
<td>EAN / UCC</td>
<td>Retail &amp; Distribution</td>
<td>Bar codes, location codes, XML schemas, EDI messages</td>
</tr>
<tr>
<td>EDIFICE</td>
<td>Electronics</td>
<td>B2B specifications</td>
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<tr>
<td>ETIS</td>
<td>Telecoms</td>
<td>Guidelines and benchmarks for information exchange using ICT</td>
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<tr>
<td>EURATEX</td>
<td>Textile</td>
<td>B2B specifications</td>
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<tr>
<td>EUROFER</td>
<td>Steel</td>
<td>Steels and steel product standardisation</td>
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<tr>
<td>GHX</td>
<td>Healthcare</td>
<td>SCM specifications</td>
</tr>
<tr>
<td>HL7</td>
<td>Healthcare</td>
<td>RIM and other messaging specs for healthcare organisations</td>
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<tr>
<td>IAI</td>
<td>“Smart Building”</td>
<td>Industry Foundation Classes (IFC) information model &amp; specs</td>
</tr>
<tr>
<td>IATA</td>
<td>Airlines</td>
<td>EDI messaging</td>
</tr>
<tr>
<td>OTA</td>
<td>Travel</td>
<td>B2B and B2C specifications for integrating travel services</td>
</tr>
<tr>
<td>PAPINET</td>
<td>Paper</td>
<td>SCM specifications</td>
</tr>
<tr>
<td>PIDX</td>
<td>Petroleum</td>
<td>B2B specifications</td>
</tr>
<tr>
<td>RosettaNet</td>
<td>IT, Semiconductor, Logistics, Telecoms</td>
<td>PIPs, RNIF, dictionaries, product &amp; partner codes</td>
</tr>
<tr>
<td>SWIFT</td>
<td>Banking</td>
<td>Framework, messages, partner codes</td>
</tr>
<tr>
<td>TTI</td>
<td>Travel</td>
<td>B2B travel booking specs: Unicorn, REScon &amp; TOPAS EDI messaging, &amp; XML specs</td>
</tr>
<tr>
<td>UIC</td>
<td>Railway</td>
<td>Data transmission protocols &amp; messaging formats for passenger &amp; freight applications, PKI, country codes</td>
</tr>
</tbody>
</table>
Some basic questions

- What
  - Not obvious
- When
  - Too early vs Too late
- Who
  - A myriad of choices
- How
  - Process People Rules
Role of Standards

- Making market: new opportunities and competitiveness
  - e.g. GSM, MPEG, HTML/HTPP, DTV/MHP, DVB …
- Regulatory requirement
  - EC Directives: 87/95, 98/34, New Approach
- Public interest issues
  - e.g. eSignature, eInvoicing, Privacy & Data Protection
- Consensus building
- Balancing of stakeholder interests, especially SMEs & Consumers
- Support for Industrial Policy
Standards failure criteria

- No mainstream implementation
- No deployment
- No use

Strategies to mitigate standards failure

- Address a critical and imminent problem
- Provide a killer app with low deployment cost
- Provide value for existing applications
- Narrow the purpose to “easy area”
What makes a successful standard
adapted from draft-iab-protocol-success-03.txt, March 2008
Success factors for standards

- Positive net value - addressing a “demonstrable”, “real” need
- (Incremental) deployability
- Open code availability
- Minimal/no usage restrictions
- Open specification availability
- Effective maintenance
- (Extensibility)
- (Scalability)
- Good Technical Design
Conclusions

Standardisation is **an important route** for RTD exploitation, but:

- Requires
  - A clear answer to motivation
  - Credentials and credibility
  - Balance of actors and technology “mix”
  - Strategy, not an after thought
  - Long term commitment
  - Time to assess! (5 – 20 years?)

- Not decoupled from Vision or Policy

- Is there an “obvious” Future Internet standardisation body?

- The Cathedrals and Bazaar of standardisation