

COIN, FP7-216256 IP

*“COllaboration and INteroperability for networked enterprises”*

# Standardisation

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# Standards

## Compilation of Problem Statements

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- 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

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- 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

- ANEC
- CEI
- CEI
- CEI
- CEI
- CIE
- DA
- DC
- DIS
- DV
- EA
- EB
- E-B
- EC
- EC
- EE
- EIC
- ETS
- FIP
- HL
- HL
- ICC
- ICT
- IEC

- IEEE

## 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

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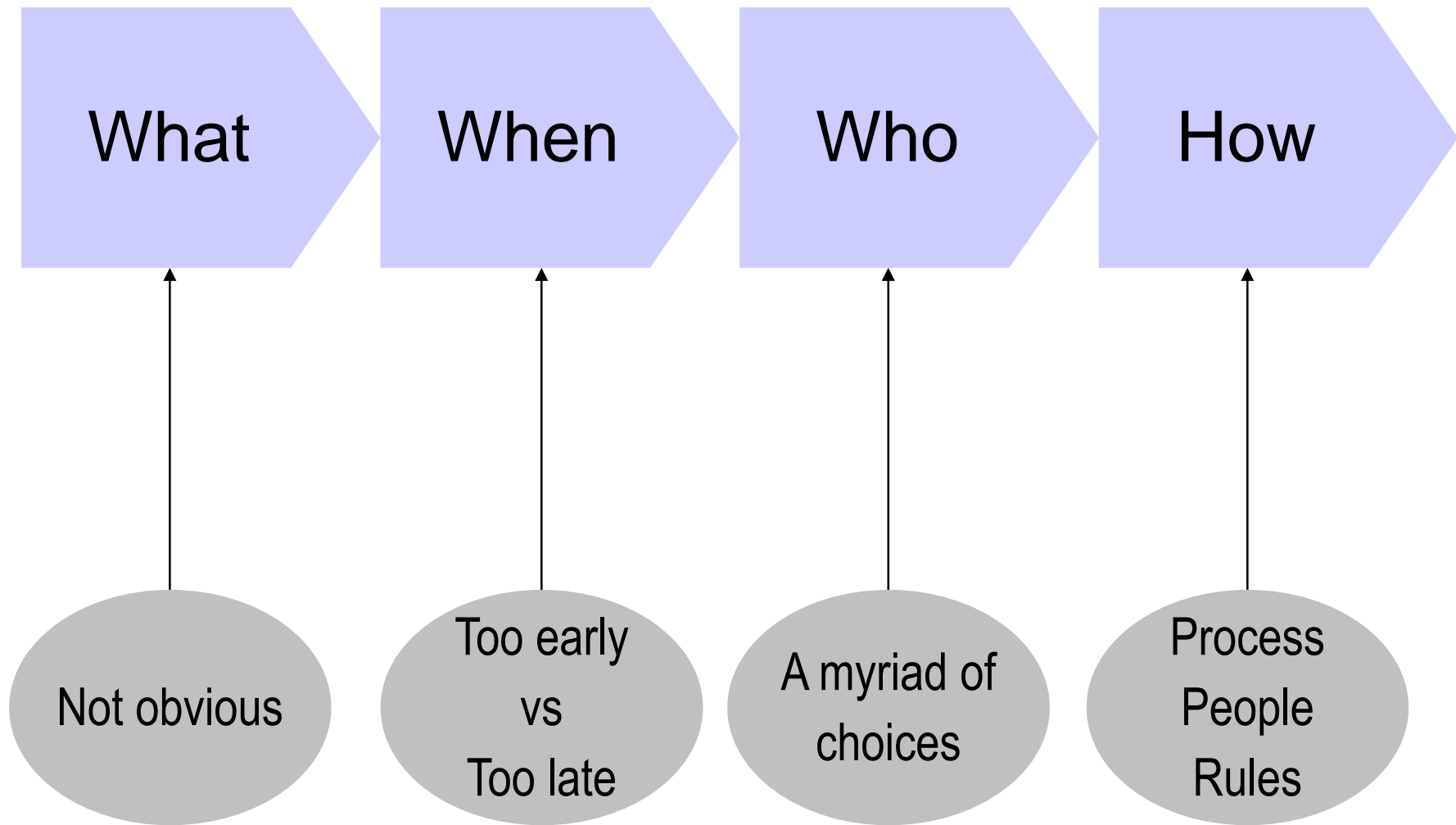
- Messaging: SOAP 1.1 and SOAP messages with attachments
- Service interface definition: WSDL 1.1
- Interoperability: WS-I basic profiles 1.0 and 1.1
- Security: WS-Security and WS-I basic security profile
- Orchestration: BPEL4WS
- Registry/metadata: UDDI, WS-Policy, WS-Metadata
- Advanced security: 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

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

# Some basic questions

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# Role of Standards

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- Making market: new opportunities and competitiveness
  - e.g. GSM, MPEG, HTML/HTTP, 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

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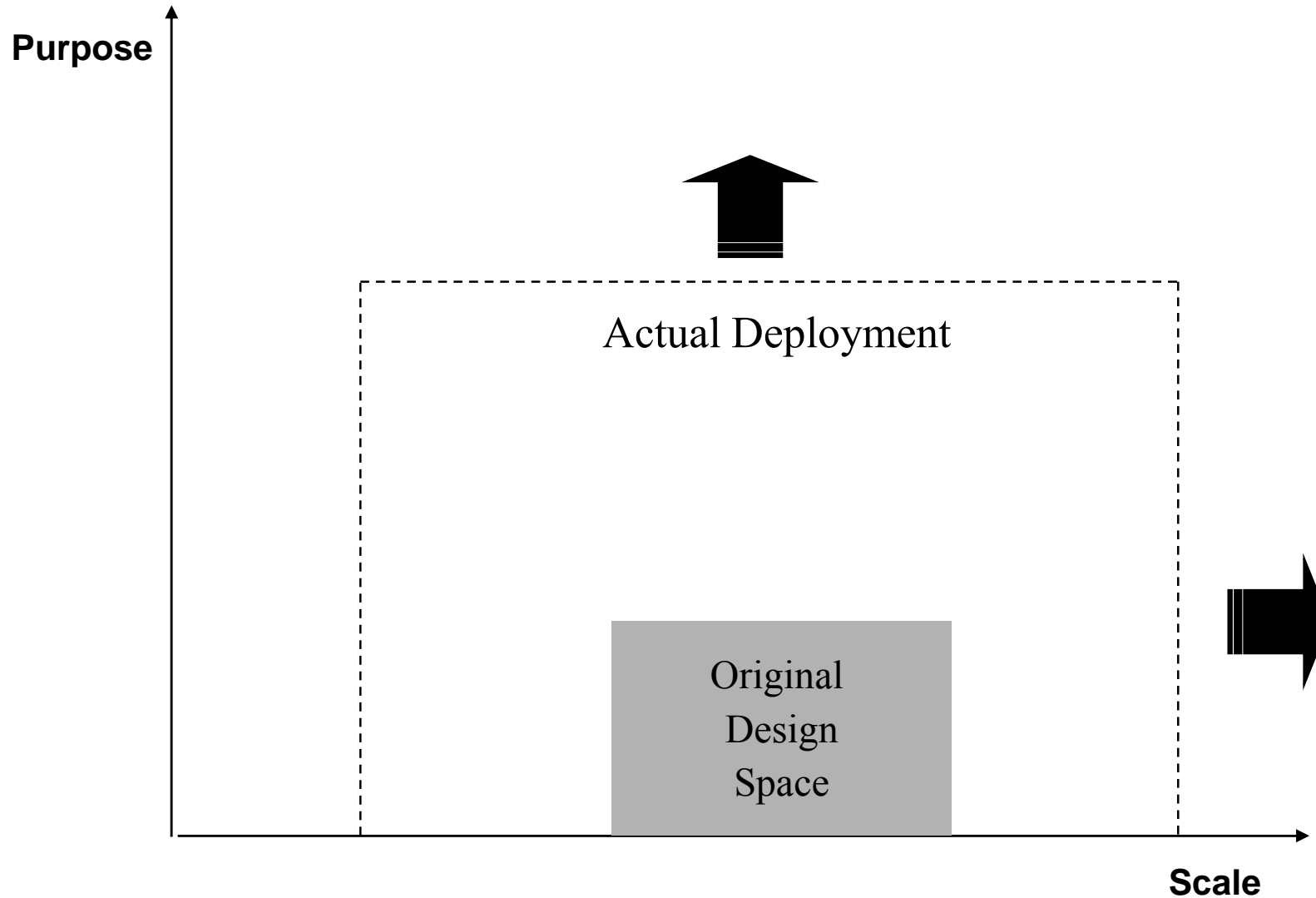
- No mainstream implementation
- No deployment
- No use

### 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

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- 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

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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