



HL7, Web Services and SOA - Past, Present and Future

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Messages vs. SOA



- HL7 defines message formats
- Implement services based on HL7 messages

Messages vs. SOA



- HL7 defines message formats
- Implement services based on HL7 messages
- SOA defines services in terms of messages
- SOA provides a wider context for a service

OMG HDTF: Corbamed



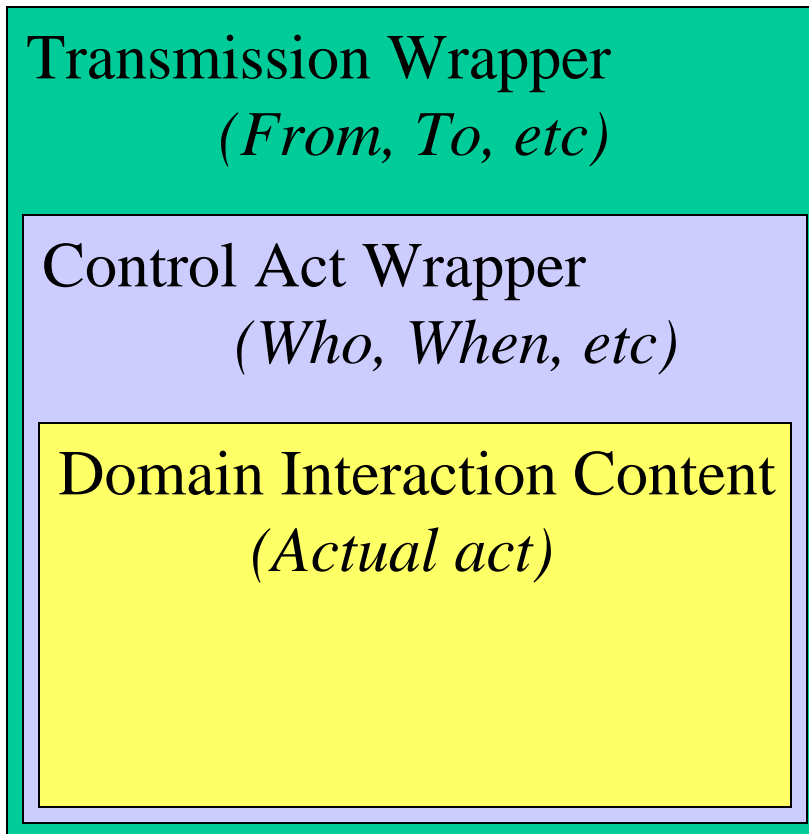
- OMG's Healthcare Domain Task Force
- CorbaMed – PIDS, lexicon, etc

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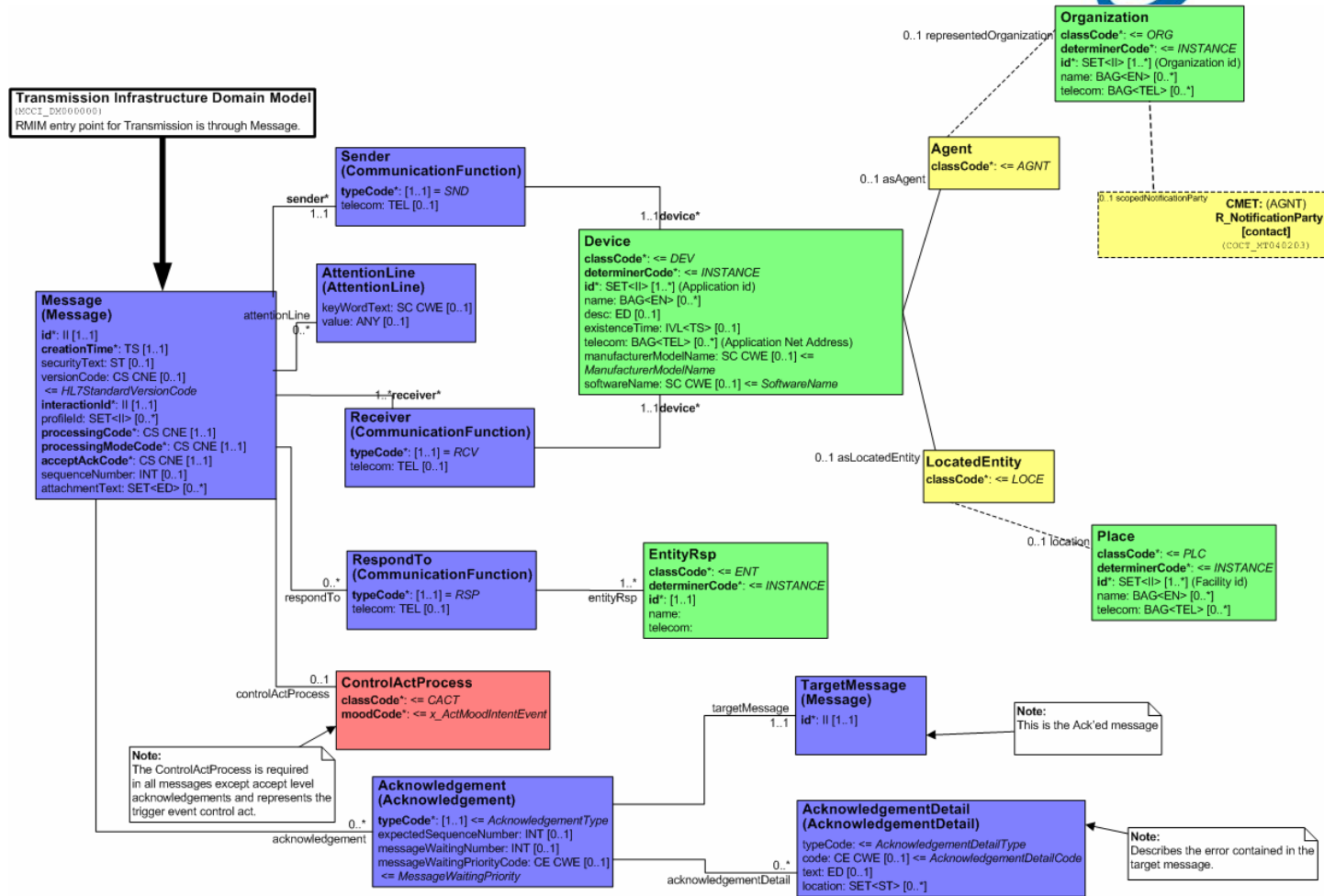


- OMG's Healthcare Domain Task Force
- CorbaMed – PIDS, lexicon, etc
- No co-operation with HL7
- Does not encourage HL7 to work on services

V3 Message Model



Transmission Wrapper



V3 Transports

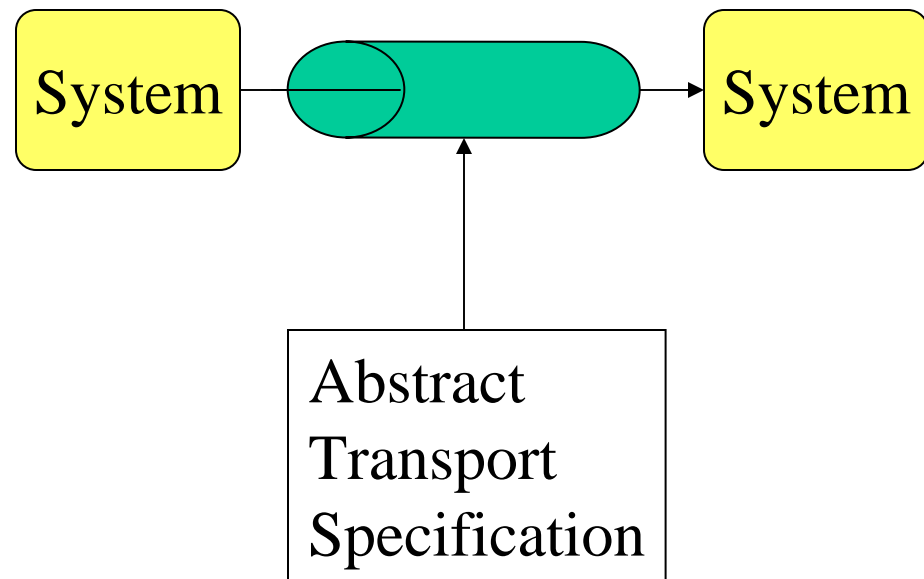


- ebXML
- Web Services
- LLP
- Removable Media

V3 Transports



- ebXML
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- LLP
- Removable Media



Web Services Profile



- A service for transporting messages
- The service expresses it's interface in terms of HL7 interactions
- The specification describes in detail how this concept is expressed in WSDL and implemented in SOAP

Web Services Profile



```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope
  xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:hl7="urn:hl7-org:v3"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <QURX_AR100020_Request_Response_QURX_IN100001.Message
      xmlns="urn:hl7-org:v3">
      [transmission wrapper, control Act, Content]
    </QURX_AR100020_Request_Response_QURX_IN100001.Message>
  </soap:Body>
</soap:Envelope>
```

HSSP / SOA



- Services BOF – discussing services in healthcare (2002)
- HSSP Project of EHR TC – defining services for healthcare (late 2004)
- SOA SIG (EHR TC) – SOA in healthcare (late 2005)

SOA Sig



The Services Oriented Architecture SIG (SOA) supports the HL7 mission to promote and create standards by identifying common architectural "services" and their behaviors and establishing an industry position on the form these services take. The ServicesSIG will produce Service Functional Models (SFM) which will be balloted HL7 standards declaring the functions and information appropriate to them. The SOA SIG will identify service candidates, prioritize and determine functional boundaries for those services, relating them to existing HL7 content and other relevant standards.

These services will promote the interoperability of healthcare systems, including but not limited to EHR systems for inter-product, intra-organization, inter-organization, regional, and national efforts.

HSSP



- Healthcare Services Specification Project
- A joint effort between HL7 & OMG
 - HL7 defines semantics & requirements
 - OMG defines implementation
- Some services chosen to focus on at first
- Work in progress for the specifications
- A place for other SDO collaborations

HSSP Work Items



- Methodology & Infrastructure
- CTS: Common Terminology Service (2)
- EIS: Entity Identification Service
- RLUS: Record Location & Updating Service
- DSS: Decision Support Service

Expect RLUS to go to OMG end of 2006

HL7 & SOA: Future



- Web services profile is poorly positioned

HL7 & SOA: Future



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HL7 & SOA: Future



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- INM doesn't enable SOA

HL7 & SOA: Future



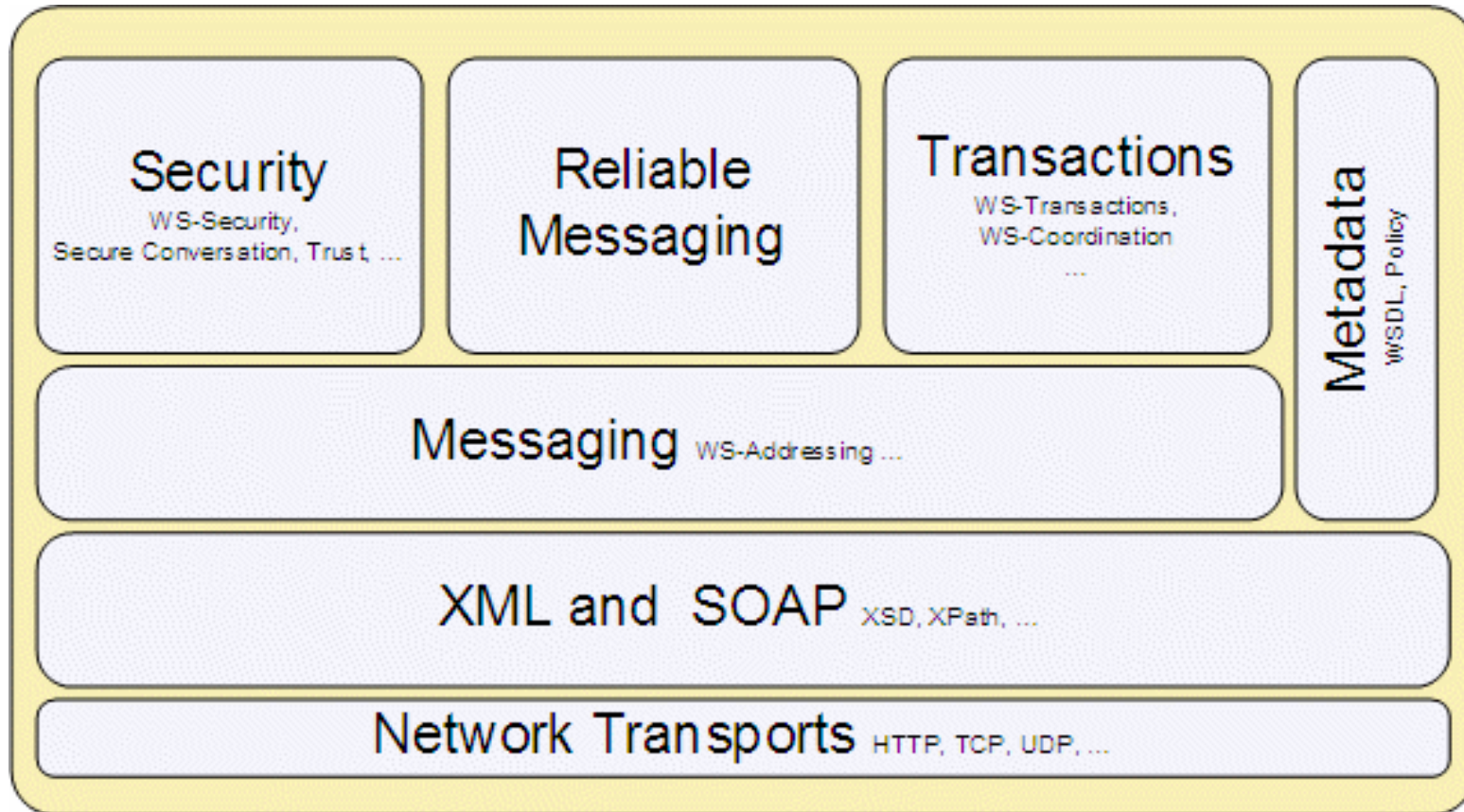
- Web services profile is poorly positioned
- Transmission wrapper doesn't work in SOA
- INM doesn't enable SOA
- Domain committees don't define content suitable for SOA

HL7 & SOA: Future

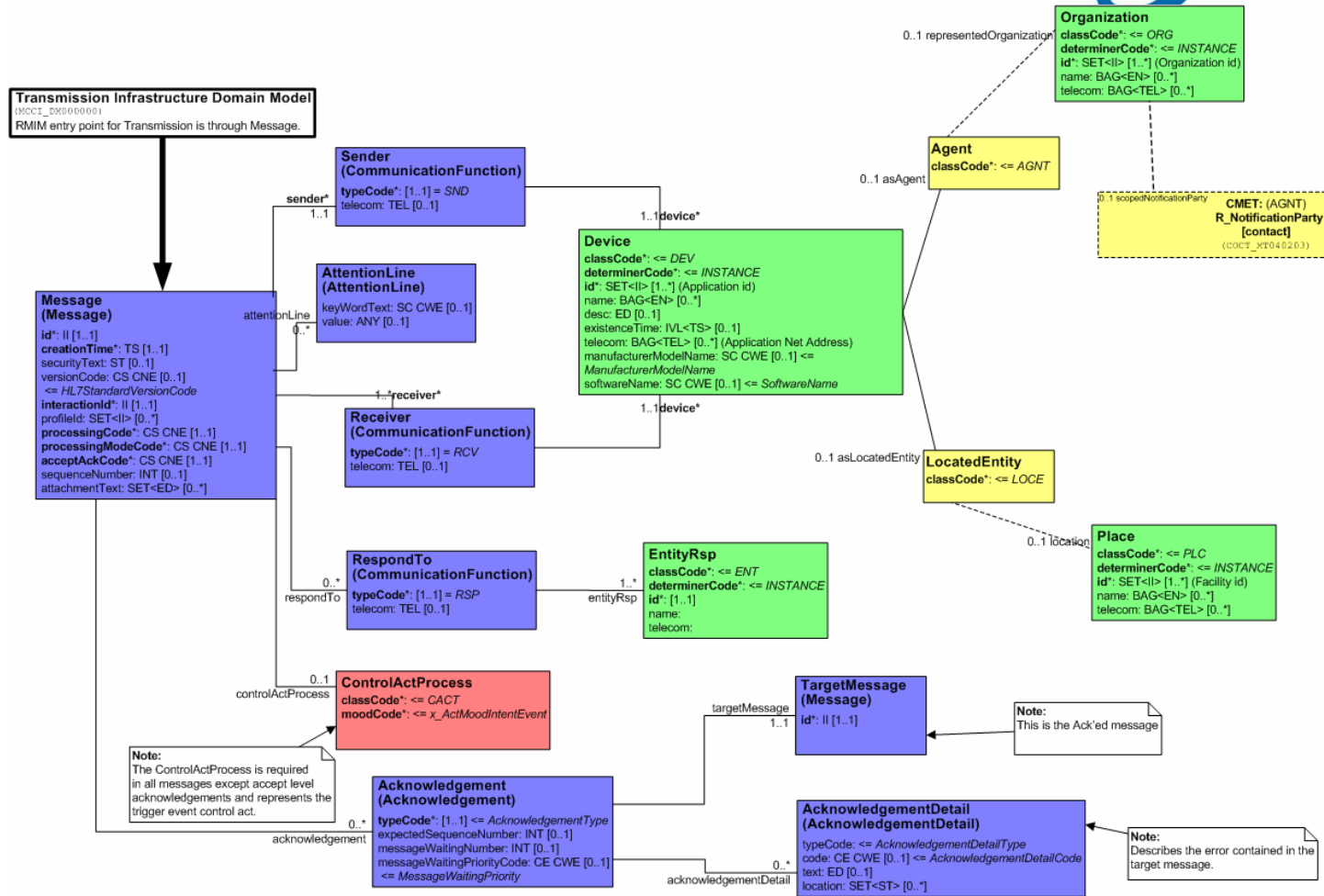


- Web services profile is poorly positioned
- Transmission wrapper doesn't work in SOA
- INM doesn't enable SOA
- Domain committees don't define content suitable for SOA
- There is no coherent vision for SOA

Web Services Profile



Transmission Wrapper



Out of Cycle Meeting



- San Antonio, Sat May 6 & Sun May 7
- Subject: Transmission and Transports
- Main Subject:

Relationship between Transmission and
Transports and SOA

New SOA Project



- SOA/HL7 workgroup: produces proposals for SOA and HL7
- One telecon – last week
- Determine scope and interests
 1. Method & Infrastructure for HL7 to map & extend existing domain content to SOA
 2. Coherent plan & framework; a vision of SOA in Health

Recommendation

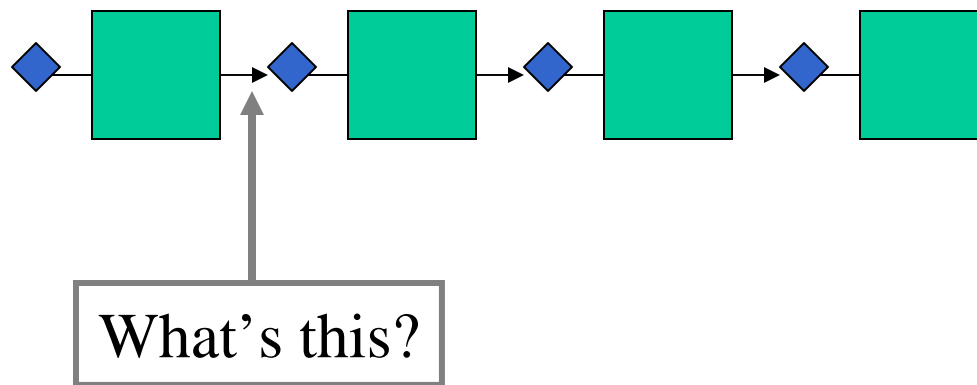
Proposed scope of initial HL7-SOA proposal

- An architecture/approach describing how HL7 V3 content would be consumed and produced by Services within an overall SOA
 - Cover transmission and transport issues
 - Consider role of: Current XML ITS, Control/Query infrastructure, Transmission wrappers
 - Define for generic SOA and then specific technologies (e.g. XML, SOAP, WSDL and WS-* initially, subsequent versions may consider [ebXML](#), REST etc.)
- A mapping of current V3 artifacts to the SOA approach
 - This should provide at least rules for deriving or transforming from SOA elements (contract or headers) to (at least) mandatory HL7 Wrapper items (to enable transformations to/from SOA environment)
- Identification of those elements that should be left to other protocol and technology standards and any constraints that should be imposed on those elements (probably in the form of requirements)
- Outline methodology for defining services (outside of formal HSSP process) and creating service implementations, including approaches to conformance and profiling (in line with other SOA SIG / HSSP work)

SOA & Data Models



Control the operation of your SOA with BPEL



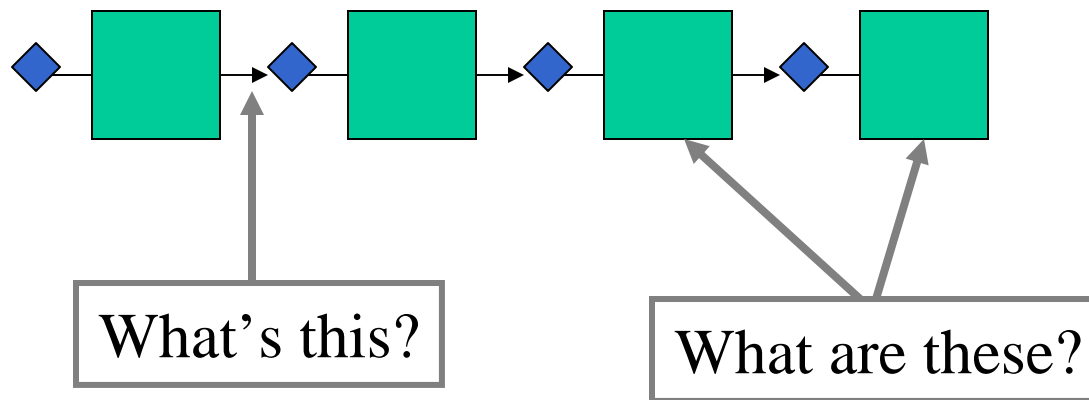
Standardisation of data models
enables the SOA

How is data model bound?

HL7 & SOA



Control the operation of your SOA with BPEL



Standardisation of data models
enables the SOA

How is data model bound?

Standardisation of service
components will increase the
interoperability of services
acquired from multiple sources

SOA in Healthcare?



- SOA: aligning your IT systems with your business services

SOA in Healthcare?



- SOA: aligning your IT systems with your business services
- Healthcare business services are poorly characterised

SOA in Healthcare?



- SOA: aligning your IT systems with your business services
- Healthcare business services are poorly characterised
- Is HL7 going to start dictating business services?

HL7 & SOA: Future



- An area of active work
 - Get involved and collaborate
 - HL7, a worker driven organisation
 - Get the outcomes you want
-
- HL7 : a Community for building consensus in Healthcare IT