



Web Services in Healthcare

Large-scale Implementation Experience

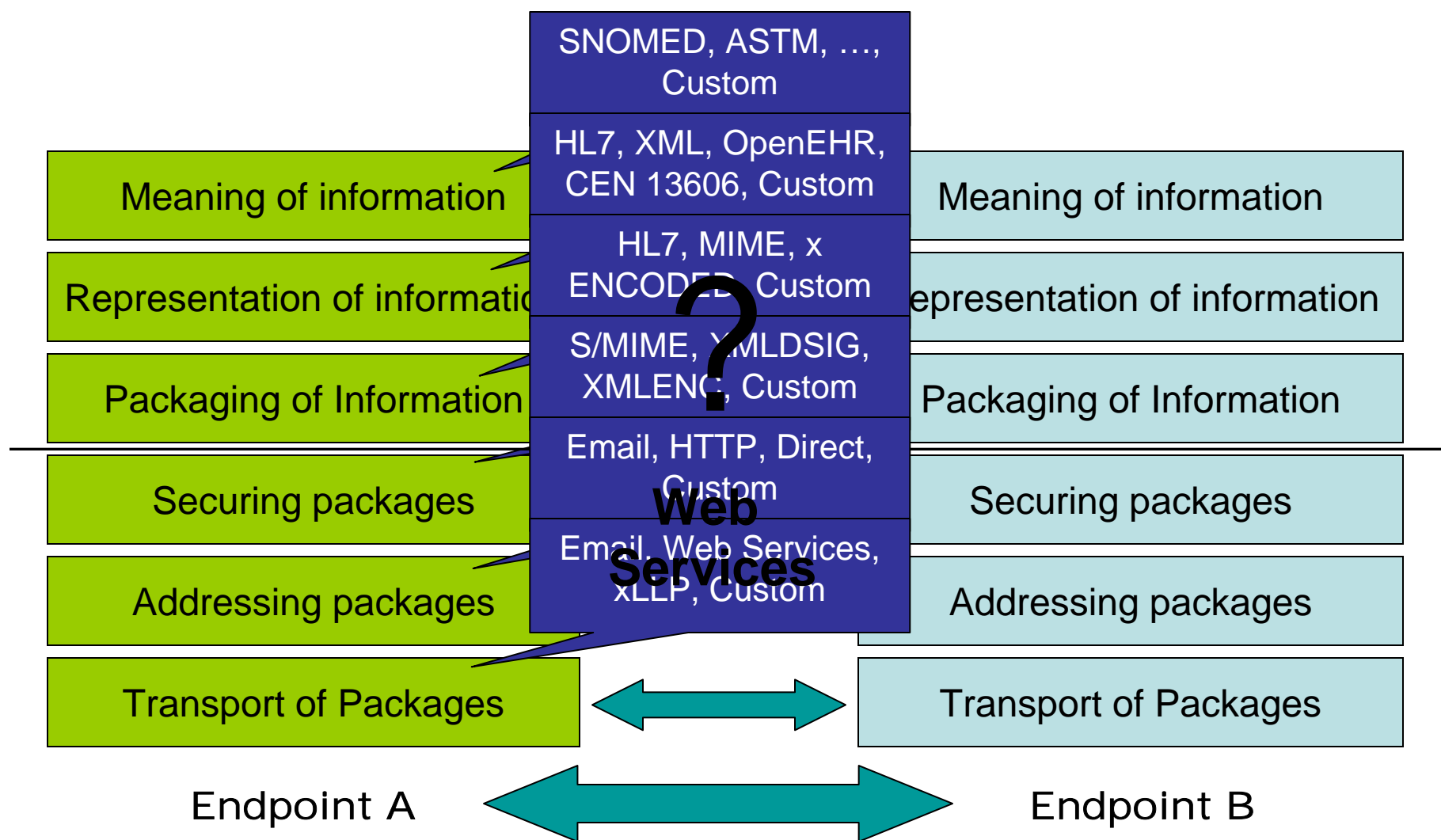
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define:Communication

- is the generic ***process of translating information from one domain to one or more domains*** through a medium
 - www.realityprime.com/gloss.php
- is the ***process of exchanging information*** and ideas. An active process, it ***involves encoding, transmitting, and decoding intended messages***
 - www.senate.psu.edu/curriculum_resources/guide/glossary.html

Where are agreements needed?




Large-scale Enterprise Experience - Issues

- Policy
 - Enterprise-wide/Enterprise-centric governance
 - Choice of standards and specifications
 - Standards maturity
 - Implementation maturity
- Design
 - Appropriate granularity of Business Services
 - Appropriate granularity of Technical Services
 - Who defines service interfaces
 - Service consumer-driven service definitions
 - Who provides services
 - Binding protocols
 - Request/response
 - Publish/Subscribe
 - Fire-and-forget

Large-scale Enterprise Experience - Issues

- Deployment
 - Service providers must be highly-available
 - Service Performance
 - Service Scalability
 - Interoperability
 - Dynamic discovery/Service Registry vs static binding
- Personnel
 - Enterprise Architects are scarce
 - Knowledgeable implementers are scarce
 - Healthcare does not have the requisite expertise
 - Transition from HL7 and Messaging to XML and Web Services is hard for most people
 - Extensive Healthcare experience in XML/Web Services skilled professionals is rare

Large-scale Healthcare Experience - Issues

- **HUGE** Legacy investment
 - **HL7** transformations to/from **XML**-based formats
 - Custom transformations to/from standard formats
 - Web Service Enablement of Legacy applications 
 - Clinical and Administration Systems
 - Practice Management Systems
- Data Representation
 - HL7
 - Keep or discard?
 - 2.2, 2.3, 2.3.1, 2.4, 2.5, 3?
 - HL7 CDA ?
 - XML or traditional encoding?
 - OpenEHR
 - nehta or proprietary archetypes and compositions?
 - CEN13606
 - Other?

Large-scale Healthcare Opportunities

- Strategic decoupling of front- and back-end systems
- Legacy transition / phase-out strategy
- Service-enablement of legacy functionality
- Composite Applications
- Web-enabled client-facing applications

Conclusions

- Meaning and Representation of information are harder to standardise than anything else
- Web Services are not sufficient for interoperability
- Web Services implementations are complex
 - Tight control is necessary
 - Choice of standards is critical
 - Interoperability is critical
- Healthcare is not a Green-Fields environment
 - The need for EAI is not going away
 - The need for HL7 is not going away
 - The need to leverage legacy systems is not going away