

IMPLEMENTATION OF INTEGRATING THE HEALTHCARE ENVIRONMENT (IHE) USING BUSINESS PROCESS EXECUTION LANGUAGE (BPEL)

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Agenda

- Background
- Integrating the Healthcare Environment IHE
- IHE Technical Framework
- Modeling Medical E-Services
- Scope
- Methodology
- Results
- Conclusion

Background



**Standards Necessary...Not
sufficient !!**

- Foundational
- Broad
- Complicated writing style
- Facilitators of communication
- External Communication
- Do not focus on configuration of end systems
- Inefficient Workflow
- Language barrier

Integrating the Healthcare Environment (IHE)

- IHE initiative is to stimulate integration of healthcare information system and resources.
- Pass information seamlessly between
 - **Application-to-application**
 - **System-to-system**
 - **Setting-to-setting**
 - **Within and between enterprises, regions, nations**
- Accelerate the process of defining, testing and implementing standard based interoperability among healthcare

IHE TECHNICAL FRAMEWORK

- The TF is a “handbook” for developers of medical IT systems that describes
 - Typical clinical use cases involving communication between IT systems
 - Detailed definition of the systems involved (ACTORS)
 - The interfaces required between these systems (based on HL7 & DICOM)
 - The standard protocols to be used for implementing the interfaces

Modeling Medical E-services

Evolution of the Medical E-Services domain !!

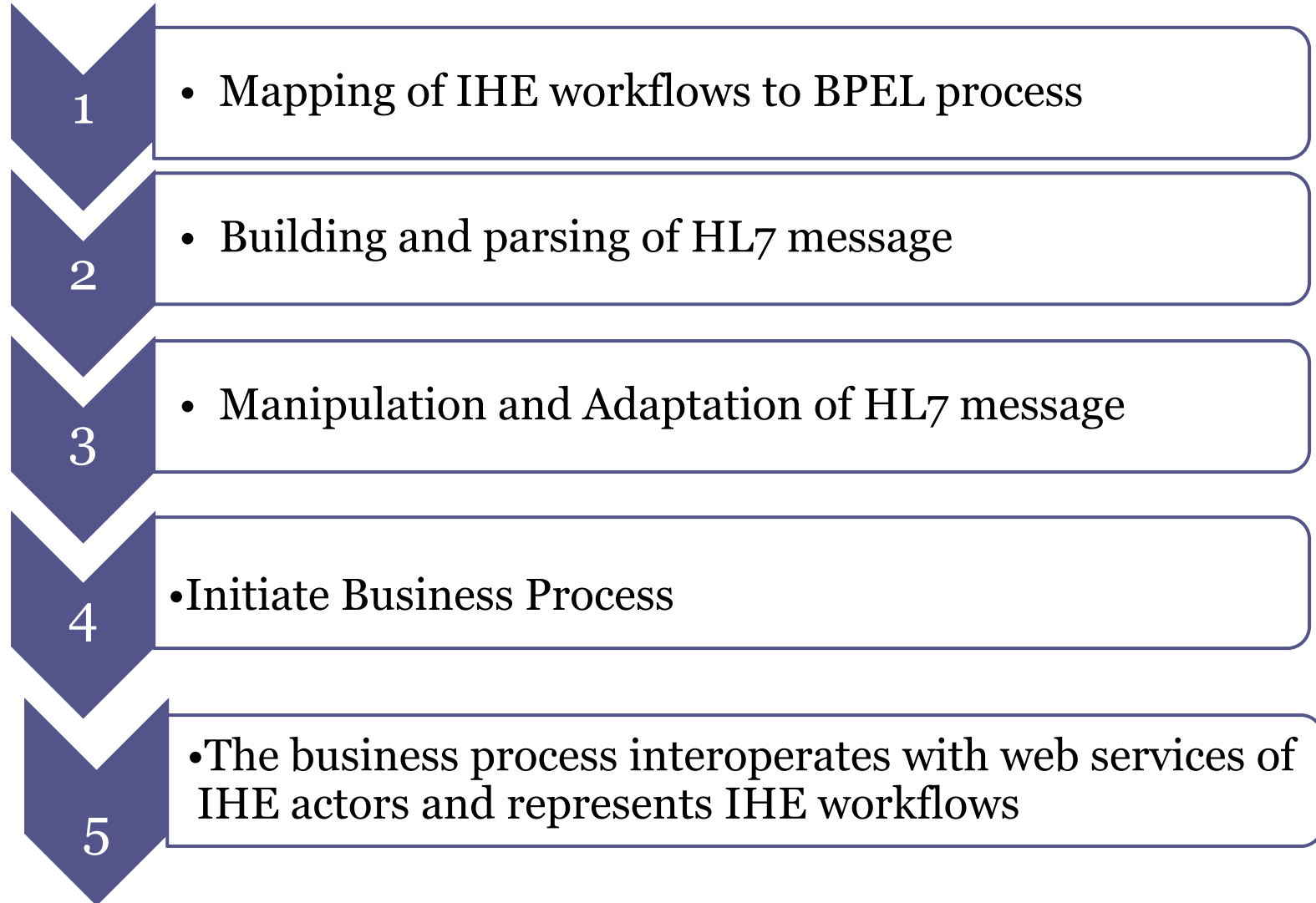
- Its complex and highly structured workflow and a standardization of communication protocol has been covered by
 - HL7 & DICOM
 - IHE Technical Framework Standardization
- Drawback: Conventional workflow systems



Scope

A Web service based workflow model that implements IHE conformant transactions to provide medical e-services functionality in a mixed Intranet/Internet environment.

Methodology



Result

Alignment of IHE workflows with BPEL process

Mapping IHE Workflow to BPEL Process

IHE CONCEPT	BPEL CONCEPTS
IHE Actor	BPEL Partner
IHE Flow	BPEL Process
IHE transaction	BPEL Service link
IHE Message	BPEL activity (invoke & receive) 1 SOAP message



Learning Objectives

- Understand Importance of IHE
- Mapping IHE concepts to BPEL constructs
- Implementation of IHE workflows as business process.



Conclusion

- Achieved the true practical interoperability in the field of Healthcare.
- Focused on the composition of medical e-services
- Design implications for the areas of coordination, security, transaction and service binding have to be defined in more detail.