Workshop for eHealth Managers

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Forum e-Zdrowia

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http://forumezdrowia.pl/en/

Agenda

- Eu directive on procurement
- MultiStakeholder Platform for ICT
- Decision EU Commission on the identification of the 27 IHE profiles for referencing on public procurement
- Use case driven approach

Introduction

- Every year, public procurement represents 14% of GPD in Europe (250 000 Public Authorities)
- ICT : Commission Decision of 28 November 2011: Setting up the European multi-stakeholder platform on ICT
- Legal aspects: Public procurement strategy
  - Transparent, fair and competitive procurement (more simpler procedures)
    - Directive 2014/24/EU on public procurement
    - Eu public procurement reform: less bureaucracy, higher efficiency, an overview of the new EU procurement and concession rules introduced on 18 April 2016 (http://ec.europa.eu/DocsRoom/documents/16412/attachments/1/translations/)

European multi-stakeholder platform on ICT

- Advise on matters related to the implementation of ICT standardisation politicies:
  - Potential future ICT standardisation needs in support of European legislation, policies and public procurement
  - Technical Specifications for public procurements developed by global ICT standards-developing organisations
  - (…)

  From https://ec.europa.eu/digital-single-market/en/european-multi-stakeholder-platform-ict-standardisation

Expected Benefits for Stakeholders and Industry in Europe

- Increase the skills and competencies of buyers
- Promoting the strategic use of procurement of innovation: several tools available such as PPI
- New opportunities for SMEs within the single Market (Digital Agenda for Europe)
- Improve the access to world markets (with the use of international standards)

MSP for ICT

- Objectives: identify ICT technical specifications that meet requirements and answering to the European needs
- These specifications should meet the requirements on the annex II of the regulation 1025/2011 on European standardisation:
  - Do not hamper interoperability with the implementation of existinf European of Inernational standards
  - No conflict with European standards
  - Developed by non profit making organisation:
    - Criteria: openness, consensus, transparency, maintenance, relevance, neutrality and stability, quality
  - *From http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:316:0012:0033:EN:PDF*

MSP for ICT

- Advisory expert groups:
  - European Standardisation bodies (ETSI, CEN CENELEC)
  - National Authorities
  - Stakeholder organisations (vendor associations, user associations, others)
- Evaluation of candidates for identification and referencing in the European public procurement
- Examples: IPv6, LDAPv3, W3Cxml, UBL 2.1, ECMA 402,…

- See https://ec.europa.eu/growth/sectors/digital-economy/ict-standardisation/ict-technical-specifications_en

In eHealth: Identification of the 27 IHE profiles

- July 2015, Commission decision on the identification of 27 profiles eligible for referencing in public procurements as technical specifications
- Comply with annex II of the Commission Decision 2011/ C/349/04

1. IHE XCPD: Cross-Community Patient Discovery
2. IHE XCA: Cross-Community Access
3. IHE XCF: Cross-Community Fetch
4. IHE XDR: Cross-Enterprise Document Reliable Interchange
5. IHE CT: Consistent Time
6. IHE ATNA: Audit Trail and Node Authentication
7. IHE BPPC: Basic Patient Privacy Consents
8. IHE XUA: Cross-Enterprise User Assertion
9. IHE PRE: Pharmacy Prescription
10. IHE DIS: Pharmacy Dispense
11. IHE XPHR: Exchange of Personal Health Record Content
12. IHE XD-MS: Cross-Enterp
13. IHE XD-SD: Cross-Enterp
14. IHE PIX: Patient Identifie
15. IHE PDQ: Patient Demog
16. IHE XDS.b: Cross-Enterprise Document Sharing
17. IHE XDS-I.b: Cross-Enterprise Document Sharing for Imaging
18. IHE XD-LAB: Laboratory Reports
19. IHE XDM: Cross-Enterprise Document Media Interchange
20. IHE SVS: Sharing Value Sets
21. IHE SWF: Radiology Scheduled Workflow
22. IHE SWF.b: Radiology Scheduled Workflow (version b)
23. IHE PIR: Patient Information Reconciliation
24. IHE PAM: Patient Administration Management
25. IHE LTW: Laboratory Testing Workflow
26. IHE LCSD: Laboratory Code Sets Distribution
27. IHE LAW: Laboratory Analytical Workflow

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Identification of 27 IHE profiles

- These specifications cover several domains:

Domains	Scale
Pharmacy	local, national/regional community
Radiology	Hospital, local, national/regional community
Laboratory	Hospital, local, national/regional community
EHR	Local, National, regional infrastructure
Patient, Patient at home	Hospital, national/ regional infrastructure
Security	Hospital, national/ regional infrastructure

In public procurement,

- IHE profiles can be purcharsed in a public procurement as technical specifications in the European market
- IHE profiles gathers set of standards and facilitate the work of procurers
- IHE profiles provide choice of building blocks for project nteroperability specifications

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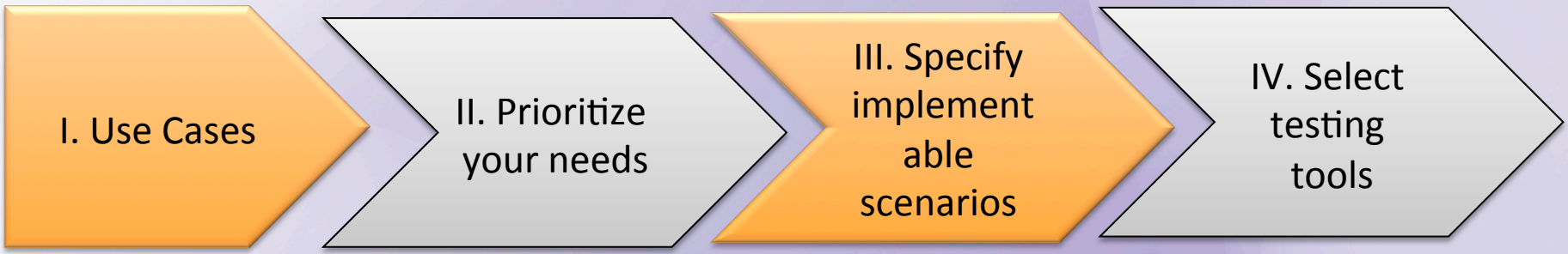
How to procure IHE profiles ?

Use case driven approach



Need to set scope for now and in future
➔ Use cases for health information exchange, hospital, community

Need to define criteria for the eHealth roadmap

➔Key Health challenges
➔Maturity
➔Technical environment
➔Cost-effectiveness
➔other

Need to outline the general distribution of responsibilities (technically and organizationally)
➔ A High-level Architecture

Need to have "clear boundaries" so that different parties may develop and conform to these interfaces
➔ For each Use Case a corresponding Interoperability Specification
➔ Select set of profiles

Need to define testing strategy
➔ Define unit/ preprod/prod testing environment
➔ Select robust relevant testing tools

Need to have "clear policies" for:
➔ Privacy and security
➔ Governance rules for implementation (e.g. testing and conformity assessment)
➔ Govern evolution of the framework

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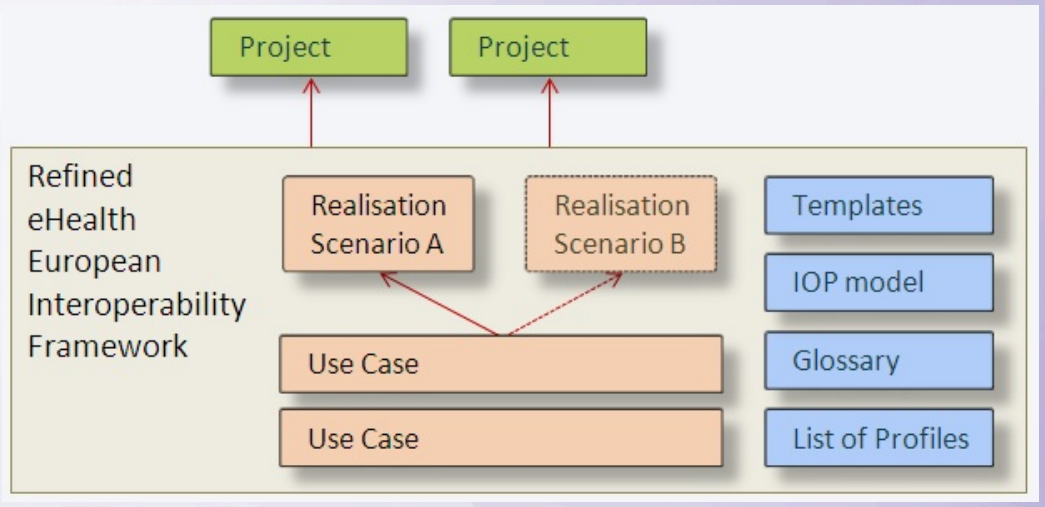
I. Use Case definition (1/2)

#	Medical domain	Description	Scale
1	Medication	e-Prescription and e-Dispensing	1a) Cross-border 1b) National/Regional 1c) Intra-organisational 1d) Citizens at home
2	Radiology	Request and results sharing workflow for radiology	2a) National/Regional 2b) Intra-organisational
3	Laboratory	Request and results sharing workflow for laboratory	3a) National/Regional 3b) Intra-organisational
4	Patient Summary	Patient Summary sharing	4a) Cross-border/International 4b) National/regional 4c) Citizens at home
5	Referral- and Discharge reporting	Cross-enterprise Referral and Discharge Reporting	National /Regional 5a) Referral of patient from primary to secondary care 5b) Discharge report from secondary care
6	Participatory healthcare	Involvement by chronic patients in electronic documentation of healthcare information	Citizens at home
7	Telemonitoring	Remote monitoring and care of people at home or on the move using sensor devices	Citizens at home
8	Multidisciplinary consultation	Medical Board Review	National/Regional
9	Public Health	Immunization	National/regional Intra Organizational
10	Antenatal care	Antenatal care	National/Regional

- Refined European Interoperability Framework adopted in Nov 2015 by the eHN

II. Use case definition (2/2)



use case data repository (eStandards, 2016) was developed from the eStandards project.

- Each use case provides information on the
  - Relevance: describes in natural language the needs
  - Domain: one of the 10 domains
  - Scalability: use case implemented at the local, regional/national, European or international levels
  - Context: challenges, ehealth strategy or objectives to be reached, benefits, etc.
  - Information: medical information that will be shared between stakeholders
    - Participants: healthcare professionals and patient involved in the use case
  - Process flow: describes the information flow among participants

III Priorization of Use cases

- Define the local/regional/national framework:
  - Prepare the set of use cases in a roadmap
  - Criteria for selection

    are the Ucs aligned with the Health challenges ?

    Are the use cases already deployed in hospital? Community ? National level ?

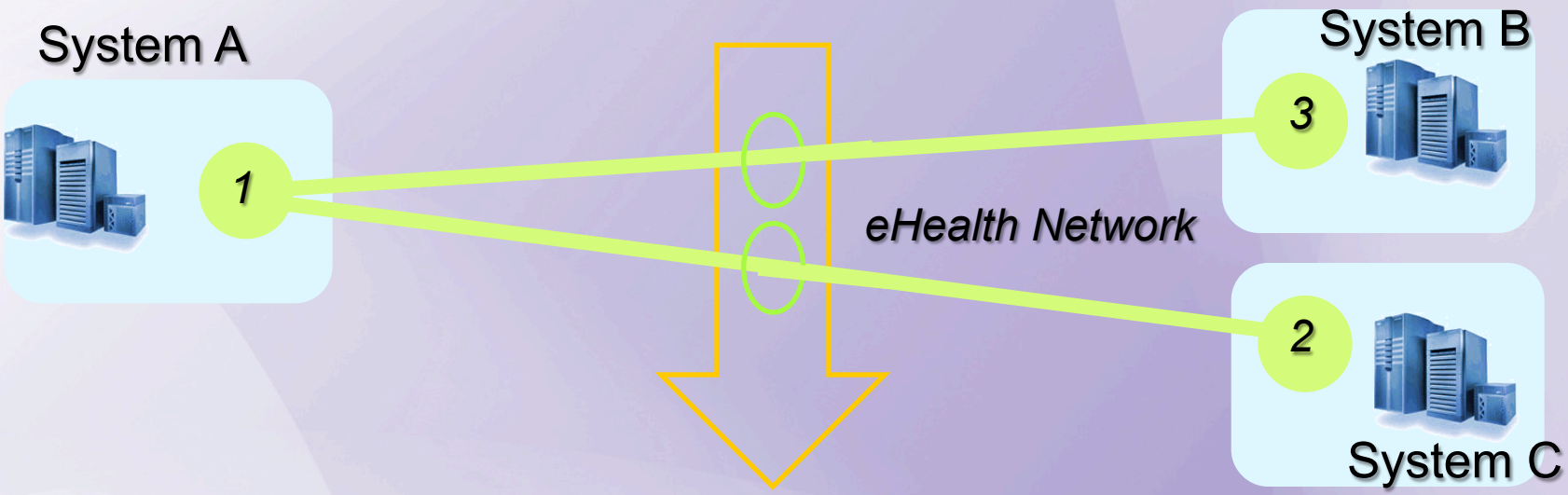
    Is the technology and standards available for deploying the UC ?

    …

IV. Specify implementable scenarios

- high-level architecture
  - That supports the use cases
  - That standardizes “key interfaces” between Actors (abstraction of real world IT systems such as those in primary care, hospitals, labs, etc.)
- Template:
  - The related use case that the realization scenario implements
  - The context that describes the interoperable architecture and specific technical requirements
  - The actors that are systems or solutions involved in the workflow
  - The transactions that correspond to the messages, documents exchanging or shared between systems
  - The technical process flow(s) that can be represented by an interaction diagram or in a description depicting actors and transactions in the flow
  - The associated profiles and standards underneath
  - Other possible issues raised during the specification process which may cover security issues, options not yet chosen, architecture issues, custom interfacing with legacy systems and many more.

Interoperability Procurement



A Profile specifies (by references to standards) what is exchanged "on the wire" between "abstract systems" called actors (e.g. 1,2,3)

For each systems procured:

1 - *Specify the Profile/Actors to be supported (avoids pages of detailed specs)*

2 - *Ask for the IHE Integration Statement (declares Profile/Actors supported)*

3 – *Ask for a declaration that the Actor/Profile implemented has been tested at an IHE Connectathon (check on the IHE Product Registry).*

4 – *Place contractual commitments to fix non-compliance to IHE Profile Specifications claimed*

Use of IHE profiles in eHealth project

Key health systems objectives

Use cases/ Scenario

IHE profiles

Standards

HL7 TRANSITION Update

ISO

DICOM Digital Imaging and Communications in Medicine

OASIS

IHTSDO

Profiles for Use Case A

Content & Terms

- Patient summary
- Lab Report
- Imaging Info Exchange
- ECG Report
- . . .

Services

- Patient Demographics
- X Document sharing
- Health Provider Directory
- . . .

Security and Privacy

- Consent management
- Audit Trail
- . . .

Interop-erability Tests

IHE Connect-athon

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Example

Cross-Enterprise Sharing Of Laboratory Results

Related Use Case: Request and results sharing workflow for laboratory on a National/regional scale
Scenario context: This use case describes a simple process of request and results, but not a "closed loop system".

Actors: Lab Results Source
Results Viewer
Transactions: Request Laboratory results
Retrieve Laboratory results
Show Laboratory results
Technical Process Flow:

1. Physician logs in and requests laboratory results of a patient
2. Results are gathered from the different laboratory result documents that are available of the patient in the XDS registry
3. Results are shown in a viewing format as instructed in the "View" option of the XD-LAB IHE profile. This profile collects the different result documents and shows the combined information in a format that is recognised by the requesting physician.

Associated profiles and standards: **ATNA - Audit Trail and Node Authentication**
CT - Consistent Time
HPD - Healthcare Provider Directory
PDQ - Patient Demographics Query
PIX - Patient Identifier Cross-Referencing
XCA - Cross-Community Access
XCPD - Cross-Community Patient Discovery
XDS.b - Cross-Enterprise Document Sharing
XUA - Cross-Enterprise User Authentication
Content profiles: **BPPC - Basic Patient Privacy Consent**
XD-LAB - Sharing Lab Report
Possible issues:
This Realisation Scenario assumes the availability of laboratory results in a document-based format (usually, a CDA document). Rules for the combination of information from different documents must be agreed upon for a shared, uniform viewing format.

Source: Antilope

IV Select testing tools

- Define the testing strategy:
  - Define the testing environment: Unit, PrepProd and Prod environment
  - Select testing tools:
    - Gazelle Test Management
    - Simulators: plays the role of systems
    - Validators: tools for checking the conformity of the messages
    - Data generation tools: provide testing data (Patient demographics data, certificates,…)
    - Other support tools: proxy to capture messgaes before validation
  - Define the test plan and test scripts

What's next ?

- IHE Conformity assessment program:

a trusted neutral organization that guarantees that an IHE profile implementation in a commercial products is positively tested against an IHE test plan/test tools

  - Specific version of a specific product (re-testing may be needed for every major version).
  - The process and rigor of "Conformity Assessment" defined in terms of a "conformity assessment scheme" (process, test plan and test tools) to ensure world-wide equivalence.
  - Expects a vendor to pass appropriate Connectathon tests as a prerequisite for seeking profile/actor accredited testing

- Provide to the procurers transparency on the IHE profiles implementation by the vendors

-→ **Better quality of future solutions that will be deployed**

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QUESTIONS ?

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