

Advancing eHealth Interoperability

Antilope – refinement of the eEIF

Vincent van Pelt Nictiz, the Netherlands vanpelt@nictiz.nl









Antilope Core and Experts Partners





























SEVENTH FRAMEWORK PROGRAMME





Instytut Logistyki i Magazynowania



Antilope Validation Partners





Antilope

Romania, Bulgaria, Greece, Cyprus, Turkey



Overview

- Three key messages
- Goals of Antilope
- Deliverables
- eHealth European Interoperability Framework
 - Antilope Use Cases
 - Linking Use Cases to IHE and Continua Profiles
 - Templates for Use Cases and Realisation Scenarios
 - Refined interoperability schema
- Three key messages (with solutions from Antilope)







Three key messages

Interoperability requires a shared definition of interoperability levels, terms and use cases

Use Cases are important building blocks in the realisation of interoperability

Using open, international standards and profiles in the implementation of Use Cases is a future-proof investment and facilitates cross-border solutions









- Refinement of eHealth European Interoperability Framework
 - Provide a comprehensive set of Use Cases that can be used throughout Europe as a basis for national and regional implementations
 - Provide tools and schemas that can assist in a shared understanding of interoperability issues
- Educational material
 - For summits, discussions, collaborations and projects







Deliverables

- 1. D1.1 Refinement Definition document
 - Refined eHealth European Interoperability Framework
 - Set of Use Cases
 - Linking to interoperability Standards and Profiles (through Realisation Scenarios)
 - Templates for description of Use Cases and Realisation Scenarios
 - Model for interoperability levels
 - Glossary of interoperability terms and definitions
 - Overview of the IHE and Continua Profiles mentioned in the Antilope Use Cases
 - Recommendations for governance and lifecycle
- 2. D1.2 Educational material
 - PowerPoint presentation (this presentation)
 - Refinement Definition document (see above)







Antilope Interoperability Framework









Antilope Use Cases

#	Medical domain	Description	Scale					
1	Medication	e-Prescription and e-Dispensing	1a) Cross-border					
			1b) National/Regional					
			1c) Intra-hospital					
			1d) Citizens at home					
2	Radiology	Request and results sharing workflow for radiology	2a) National/Regional					
			2b) Intra-hospital					
3	Laboratory	Request and results sharing workflow for laboratory	3a) National/Regional					
			3b) Intra-Hospital					
4	Patient Summary	Patient Summary sharing	4a) Cross-border					
			4b) National/regional					
			4c) Citizens at home					
5	Referral- and Discharge	Cross-enterprise Referral and Discharge Reporting	National /Regional					
	reporting		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					



Linking Use Cases to Profiles

- High-level Use Case
 - Functional description of the interactions between the participants in a process, for a certain purpose. Implementation-agnostic.
- Realisation Scenario
 - High level direction for the realisation of a Use Case
 - Can be linked to interoperability Profiles.







Linking Use Cases to Profiles









Using Profiles to realise functionalities



Workflow interoperability

XDW Document Workflow

XBeR-WD Basic eReferral

Workflow descriptions

LTW Laboratory Testing Workflow

SWF Scheduled Workflow (Radiol.)



Templates for Use Case description

- Structured description of Use Cases and accompanying Realisation Scenarios
- Separate templates for the Use Case (= problem description) and the Realisation Scenario (= solution direction)
- Can be used for the structured description of additional Use Cases.







Use Case description template



Title	(Number and) Name of the Use Case						
Purpose	The Purpose of a Use Case describes the objective that needs to be achieved, the goal of the use case. It also describes the relevance of the Use Case (both from the care process and the economical viewpoint).						
Domain	The key functional domain of the Use Case: Medication, Radiology, Laboratory, Patient Summary, Referral and Discharge Reporting, Participatory healthcare, Telemonitoring, Multidisciplinary consultation						
Scale	Organisational dimensions of the Use. The following scales have been defined for the Antilope Use Cases: Cross-border, National/regional, Intra-hospital, Citizens at home and on the move						
Business Case	The Business Case explains the 'why' of the Use Case. It describes the relevance of the Use Case (both medical and economical). This part can contain a short SWOT analysis.						
Context	Describes the current situation, influencing factors						
Information	High-level description of what type of information is shared, like 'patient summary' or 'medication prescription'						
Participants	List of the main participants in the process. These can be individuals or organisational units. They are real-world parties.						
Workflow steps	Real-world, functional description of a sequence of interactions between the participants in the different interaction steps of a process						





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Realisation Scenario description template

Title	(Number and) Name of the Realisation Scenario					
Related Use Case	Use Case that this Realisation Scenario is related to					
Scenario context	Information and background about the real-world scenario.					
Actors	List of the main participating systems, also (confusingly) called Actors, in the process. In this context, an Actor is an ICT system, as opposed to a participant (see above). Actors are involved with each other through transactions.					
Transactions	Interoperability workflow steps describing the process steps between systems, including the information that is exchanged.					
Process flow	A numbered list of process steps (optionally accompanied by a schematic overview), describing transactions between systems (actors), and the information 'units 'that are exchanged. The process flow describes the interoperability steps, i.e. the steps <u>between</u> the systems, and not the steps <u>within</u> the systems. The process flow can be linked to IHE and/or Continua Profiles. In this part, also swimming lanes and other schemas can be used					
Linked Profiles	A list of Profiles that are relevant for the entire process flow, and a numbered list of the Profiles that can be linked to the Process flow steps.					
Possible issues	Issues such as legislation and guidelines, social acceptance, language issues, architectural flaws, et cetera, that may affect the realisation of this scenario.					







Refined interoperability schema - background

Many different approaches for arranging interoperability levels

Authors		Goh	Goodchild et al.	Bishr	Shanzhen et al.	Ouksel and Sheth	Miller	Tolk	Tolk and Muguira	Bernudez	Shekhar	Schekkerman	Stroetmann	Ding	Nowak	Mohammadi et al.	Kalantari et al.	van Assche	Turnitsa and Tolk	Dekkers	Chen and Daclin
Interoperability level																					
Technical	х		X			x	x		x			x				x	x		x	x	x
Schematic or structural		x	X	x		x					x				x						
Semantic	x			x	x	x	x		x	x	x	x	х	x	x		х		x	x	x
Organisational			X		x			X				x				x				x	x
Physical																		х			
Empirical																		x			
Syntactic	х		Х	x	x	x			x		х		х	x	х			x	x		х
Pragmatic			X		x	x			x									x	x		
Social						x										х		х			
Political or Human							x									x					
Legal			X				x									x	х				
International							x														
Dynamic			X		х	х													x		
Conceptual			X						x										x		







Refined interoperability schema - background







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Refined interoperability schema

Antilope interoperability schema





Refined interoperability schema

Activities for reaching interoperability in the different layers





Refined interoperability schema

Stakeholders in the different levels





Three key messages

Interoperability requires a shared definition of interoperability levels, terms and use cases	Antilope offers a set of Use Cases, a glossary of interoperability terms and definitions, a schema for interoperability levels, and a template for the description of use cases.
Use Cases are important building blocks in the realisation of interoperability	The Antilope Use Cases can be used as practical starting points for national/regional eHealth projects.
Using open, international standards and profiles in the implementation of Use Cases is a future-proof investment and facilitates cross-border solutions	The Antilope Use Cases are linked to proven and widely accepted standards and profiles.







Further information

More information is available at the Antilope website:

http://www.antilope-project.eu/



