

US Office of National Coordinator (ONC)
Standards and Interoperability (S&I) Framework
Cross Initiative – S&I Simplification Work Group

Initiative and UCAT Priorities

In collaboration with NIST and AHRQ

12 December 2013

S&I Simplification Priorities

- Analyze Components from Latest UC Requirements
 - ✓ esMD 3 - Author of Record 1/2 – w/Bob Dieterle
 - ✓ Health eDecisions (HeD) 1/2 – w/Paul Dow (ACC)
 - ✓ Structured Data Capture (SDC) – w/Mitra Rocca (FDA)

Mostly Complete – Common Requirements Review to go
- ISO TC215 WG 1 – S&I Use Case Methodology
 - Approved as New Work Item Proposal: Sydney, October 2013
 - Scope: S&I Use Case Simplification Methodology
 - Example: EU/US eHealth Cooperation Initiative

S&I Simplification – Use Case Authoring Tool Priorities

Compiled from discussions with ONC Leadership:

1. Seek/evaluate Commercially Available UCAT options
 - Prometheus Use Case Editor – Prototype (Art Griesser)
 - Sparx Systems Enterprise Architect – w/extensions (J.D. Baker)
 - Each has agreed to self-report tool development status
2. Show UCAT options side-by-side
 - With fit to S&I and Simplification Methodology
3. Identify UCAT interest with other agencies
 - NIST, AHRQ – engaged
 - DOD/VA – Take one One Case into S&I UC Template?
 - FDA – in discussion

S&I Simplification – Use Case Authoring Tool Priorities, con't

4. Achieve UCAT/FHIM Integration

- Mapping Use Case Data Objects and Elements
- Retrospective – An existing UC is mapped to FHIM based on its Data Requirements (supplemented by Harmonization):
 - » Test Case: LRI UC
 - » Allows precise UC → FHIM mapping
- Concurrent – A UC in development maps FHIM Data Objects while specifying UC Data Requirements:
 - » Test Case: EU/US eHealth Cooperation “Interoperability” UC
 - » Allows abstract (Step C) and later, precise UC → FHIM mapping (Steps D, J-K)
- Precise FHIM mapping also provides linkage to implementable standards – e.g., HL7 v2 messages, documents, templates, FHIR resources – and related Implementation Guides (Steps J-K)

S&I Simplification – Use Case Authoring Tool Priorities, con't

4. Achieve UCAT/FHIM integration, con't

- UCAT/FHIM “Integration” (at this time)
 - FHIM released in periodic versions
 - UCAT captures each new FHIM version (as .xmi)
 - UCAT maps UC Data Requirements to FHIM objects
 - UCAT captures new UC Data Objects (new FHIM candidates)
- New UC Data Objects are added and available in the next FHIM release (as managed by Galen Mulrooney)
 - No direct UCAT output to FHIM
- End State:
 - All UC Data Requirements are map-able to FHIM Data Objects
 - UCAT manages mapping of (new/revised) UC data objects at each FHIM release

S&I Simplification – Use Case Authoring Tool Priorities, con't

5. Use UCAT in parallel w/upcoming S&I Use Case(s)
 - To complete UC Requirements Template
 - With FHIM Integration: re-use or add data objects/elements
 - Enabling Simplification
 - » Adding (as appropriate) Core Components
 - With Outputs to USHIK, NIST IG/Testing Tool Suite
 - Candidate UC: EU/US eHealth Cooperation Initiative

S&I Simplification – Use Case Authoring Tool Priorities, con't

6. Validate non-IT Technical User Interface
 - Step C in Simplification Progression (spreadsheet)
 - To Create Initial Use Case Sketch by Clinical/Business SME
 - With (relative) ease of current S&I UCR Template (.docx)

S&I Simplification – Use Case Authoring Tool Priorities, con't

7. (new) Develop UC Exchange Format

- Re-defining Steps F-I in Progression
- Render UC template in paginated format
 - » Per S&I UCR Template (source is .docx)
 - » As .pdf and .html files
- Render computable UC details
 - » Content (per NIST specification)
 - » As .json files, others?
- To facilitate output to AHRQ/USHIK, NIST IGAMT/TCAMT Tools
- To facilitate cross UC exchange between UCATs

S&I Simplification – Use Case Authoring Tool Priorities, con't

8. (new) Develop End-to-End Demo – Anchored by UCAT
 - Following Progression Steps C-S
 - Candidate(s):
 - Any Use Case expressed (express-able) in S&I Use Case Requirements Template
 - Start: one Use Case at a time:
 - LRI: Lab Results Interface
 - Used as UCAT example: mostly complete end-to-end
 - EU/US eHealth Cooperation Initiative
 - UC Requirements – just underway
 - Other S&I
 - DOD/VA? 1 example?

S&I Simplification – Use Case Authoring Tool Priorities, con't

8. End-to-End Demo – Anchored by UCAT, bringing together:
 - US Office of National Coordinator (ONC)
 - Federal Health Information Model (FHIM)
 - S&I Framework Use Cases (building from Requirements Template)
 - S&I Simplification
 - Re-usable Core Components, Core Matrix
 - Use Case Authoring Tool (UCAT) – Prototypes
 - Prometheus – Use Case Editor
 - Sparx Systems – Enterprise Architect
 - US National Institute for Standards and Technology (NIST)
 - Implementation Guide Authoring and Management Tool (IGAMT)
 - Test Case Authoring and Management Tool (TCAMT)
 - US Agency for Health Research and Quality (AHRQ)
 - US Health Information Knowledgebase (USHIK)

S&I Simplification – End-to-End Demo – Anchored by UCAT

Progression Steps*

| Steps | Tool | Used to... |
|--|----------|--|
| S&I Use Case Requirements (UCR) Phase | | |
| C-D | UCAT | Build Use Case, specify Requirements and Details |
| E | | Render completed Use Case per S&I UCR Template (Word .docx) |
| F | | Identify New Core Component Candidates from this Use Case |
| G | | For FHIM update: identify new UC data objects, elements |
| H | | Output to USHIK: full Use Case |
| I | | Output to NIST Tool Suite (IGAMT/TCAMT): full Use Case |
| S&I Harmonization Phase | | |
| J-K | IGAMT | Develop/manage Implementation Guides for selected standards |
| NIST-designed Software Testing and Certification | | |
| M-S | IG/TCAMT | Develop/manage software test cases; support testing and validation |

* See S&I Simplification – Progression Spreadsheet