HITSP

Healthcare Information Technology Standards Panel

IRT CONSOLIDATION OF IMPROVEMENT PROJECTS TO ADDRESS 2009 WORK ITEMS

TC Members
- Charles Parisot (co-chair)
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- David Tao
- Durwin Day

Staff Members
- Bob Yencha
- Ed Larsen
- Erik Pupo
- Gene Ginther
- Jack Corley

Overall Goal of Consolidations

- Consolidate a number of efforts into a cohesive approach to:
    - Improve HITSP specification usability (for implementers, reviewers)
    - Simplify and reduce documentation
    - Simplify specification development, notably for "extensions/gaps"
    - Address "extensions/gaps" – a new type of request and one that presents a very large increase in number of work items for 2009

Efforts Being Consolidated

- Services (Foundations Framework Working Group)
- Simplify Requirements Analysis and Traceability
- Eliminate Excess and Overly Complex Documentation
- Modify Process To Reduce Effort and Address "Extensions/Gaps"
- Address Data Elements and Value Sets
- Tools to Enhance Usability and Authoring

HITSP Framework Refinements

Refined Fundamental Concept Definitions (1 of 3) – Changes in Yellow

Name	Refined Definition
Stakeholder	Person or organization that participates in a use-case.
Business Actor	An <u>IT system application</u> that plays a role in one or more information exchanges addressed by a HITSP specification.
Technical Actor	A declared <u>interface</u> that is a set of features and obligations that supports information exchanges for a Business Actor (system application) defined by HITSP constructs.
Information Exchange Requirement (IER)	The requirement for information exchange between Business Actors. Data contents of such an exchange are defined by associated Data Requirements.
Data Requirement (DR)	Requirements for part or all of the content for an information exchange as a set of information attributes with specific details for each attribute.

Refined Fundamental Concept Definitions (2 of 3) – No Change

Concept	Refined Definition
Component	A construct that defines the set of data elements and the structure, relationships, and constraints that fulfill a DR.
Transaction	A logical grouping of data exchanges and transport methods that must all succeed or fail as a group.
Transaction Package	A logical grouping of two or more Transactions, Transaction Packages, and/or composite standards used to realize an IER.
Interoperability Specification	Integrates and constrains HITSP constructs to meet Use Case business needs and distilled interoperability requirements. Sets context for constructs used

Services – New Additions

Concept	Refined Definition
Service (Related to Transaction Package and Transaction)	A construct that organizes a set of resources to support an information exchange between two or more organizations. It defines static "payload" (information content) and dynamic ("functional, behavioral") semantics and context for use to unambiguously specify a testable, enforceable information exchange contract between organizations. **Can be used outside an IS. When used inside an IS, simplifies the IS.**
Atomic Service	A service that does not use or interact with other services.
Composite Service	A service that is the aggregation or composition of one or more other services. These other services can be atomic services, other composite services, or a combination of both

Refined Fundamental Concept Definitions (3 of 3) – No Change

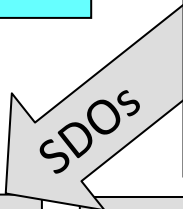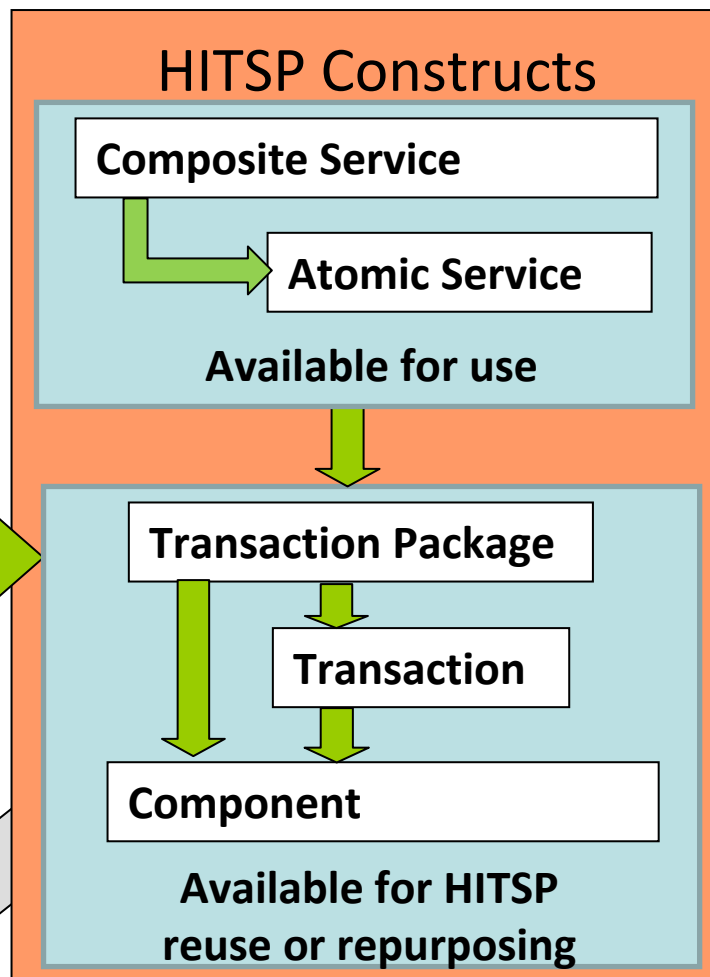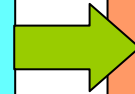| Concept	Refined Definition
Base Standard	A standard capable of fulfilling a discrete function that is produced and maintained by a single standards organization
Composite Standard	Grouping of base standards, often from multiple standards organizations, maintained by a single organization. In HITSP, it can fulfill functional requirements for a component, transaction or transaction package.

HITSP Framework

Use Case
Identifies interoperability business needs

Interoperability Specification
- Identifies what HITSP lower-level constructs to integrate to meet Business Needs
- Defines Requirements, Context and Constraints for those constructs

HITSP Constructs

Composite Service

Atomic Service

Available for use

Transaction Package

Transaction

Component

Available for HITSP reuse or repurposing

SDOs

| Base Standard #1 | Base Standard #2 | Base Standard #... | Base Standard #n | Composite Standard #1 | Composite Standard #... | Composite Standard #m |

Rationalize and Simplify Expression of Information Sharing Requirements

- Extend Information Exchange Requirement (IER) and Data Requirement (DR) to better support traceability and reuse. This extended requirement definition is made up of 4 attributes:
  - **<u>Information Exchange Requirement (IER)</u>** – action requirement for information exchange between Business Actors.
  - **<u>Data requirement(s) (DR)</u>** – Requirements for part or all of the content for an information exchange as a set of information attributes with specific details for each attribute. Some call this an "action record".
  - Business Actor(s) involved
  - Qualifier(s) – comments, constraints, etc.
- Identify small set of reusable IERs to address 80% of the needs.
  - Work in progress, decision to be made by end of February.
 - Would be candidates for services

Draft Set Of Reusable IERs – Some Initial Thinking

- **Query/Request and Response**: A bi-directional exchange between a consumer and producer actor; e.g. query for clinical information, request for prior authorization
- **Send**: A unitary action between a Sender and Receiver actor. Every send action must have both sender and recipient actors; e.g. send lab order
- **Publish**: A specific type of 'send'. Any actor can offer a published service to which you can subscribe; e.g. publish document set
- **Subscribe**: The act of signing up for future data, a notification, or events; e.g. subscribe to adverse event (it is a future query)
- **Identify**: A specialized query/response about entities; e.g. identify patient, identify provider
- **Security Layer**: Includes all security requirements that are necessary to support the identified information exchanges *(still work in progress)*

Requirements Analysis
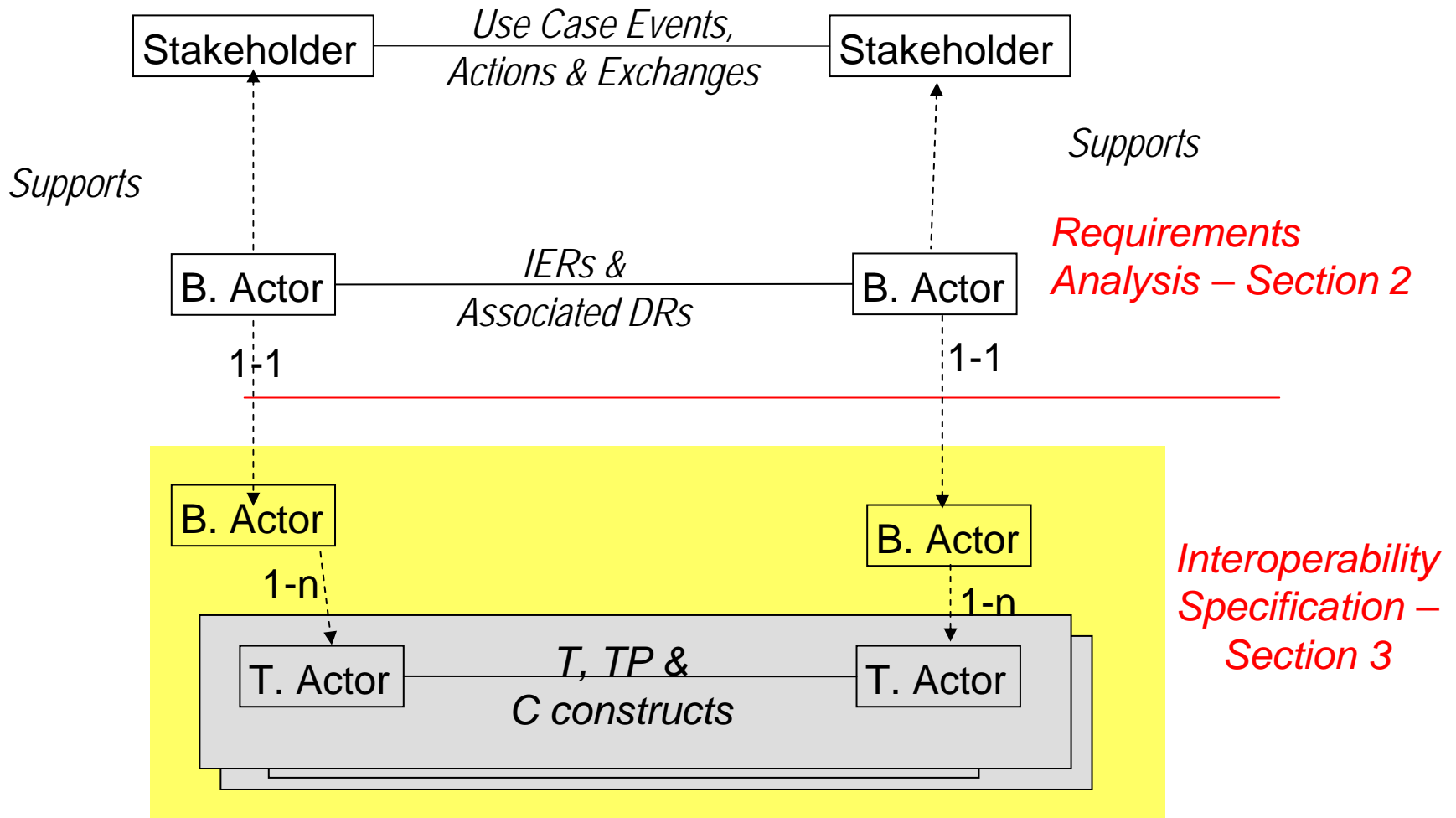
Specification Structure Refinements

Duplication and Boilerplate Issues

- Goals:
  - Make the key implementation issues apparent
  - Simplify writing, editing, and maintenance of specifications

- Issues
  - Specifications currently include too much text intended to guide the writers that are not needed to inform the reader.
  - Text and concepts repeated in many specifications difficult to keep consistent and current
  - Some constructs are "pass-through" – the "meat" is a page, but document includes 10-20 pages of non-meaningful material

- This "gets in the way" of the important material, wastes reader's time, and creates more material for HITSP to maintain, edit, and keep consistent

Proposed Solutions

- Modify construct templates such that the "instructions to writers" boilerplate are **not** carried forward into the IS and other constructs. This will help all new ISs to be more streamlined

- Delete the boilerplate sections from existing IS to streamline them (priority and timing TBD)

- Remove common repeated sections and put them in one central technical note

- Shrink "pass through" documents with new template

- End results: smaller documents (-5 to -30 pages per construct) that are quicker and easier to read

Example Things to Delete

- First paragraph or two of nearly all sections, e.g., "This section provides the following…" (Leave in template to instruct writer, but not in construct)

- These have been marked in existing constructs (IS, C, TP, T) as a guide

Things to Move to a Technical Note

- Fundamental Concept definitions and Glossary
- Master list of Systems (Technical Actors),
- List of HITSP Reference Documents (1.4)
- Description of Other Constructs (Table 1.2.1-1)
- Descriptions of SDOs and standards (e.g., IS 4.1.3-1 and 6.1). The list, but not the description, would remain in each construct)
- These have been marked in existing constructs (IS, C, TP, T) as a guide
- Other possible items: gaps, roadmap (timeline), overlaps?

Pass-through HITSP Constructs - information to be preserved

- The precise standard reference(s)
- Reflection of due diligence performed by HITSP in selecting this specific standard - Tier 1, 2 and 3 criteria.
- Table of Actor and Transactions or Data Elements/Subsets
- (Optional) Reference to other HITSP Constructs (dependencies)
- (Optional) the identification of "options" defined in the referenced standard(s) that need to be selected or not by the referencing IS.
- Identify reference standards for inclusion in IS list of referenced standards.
- Identify Constructs and the list of referenced standards to be cited in the Federal Registry.
- For a number of more complex constructs, additional information or constraints are also specified.

Preliminary Analysis of How Many Constructs are Pass-Through?

- The following Constructs are essentially Pass-through Constructs:
  - TP13, T15, T16, T17, T18, C19, TP21, C26, C28, T29, TP30, T31, T33, C36, C37, TP50, C62, T66, C74, C78, T85, TP89,
  - If common constraints are shared, TP22 and T23 could be included.
- The following Constructs are candidates to remain stand-alone documents:
  - C32, C34, C35, C80, C83,
- The following Constructs need further analysis:
  - TP20, T14, T24, C25, C38, C39, C40, C41, T42, TP43, C44, TP45, C47, C48, TP49, T63, T64, T67, T68, C70, C72, C75, C76, T79, T81, C82, C84, C87, C88, C90
- Such an initial evaluation shows that 30-40 Constructs might be deemed Pass-Through.

Proposed Approach for Duplication and Boilerplate Reduction

- By March:
  - Revise Templates for each construct to eliminate/hide boilerplate text
  - Create slim "pass through" template
  - Identify candidate list of pass-through constructs (Charles has proposed a first cut)
  - Proof-of-Concept: Apply pass-through template to "top ten" constructs that are used in several ISs
  - Proof-of-Concept: Apply boilerplate reduction to IS09
  - Prioritize candidate list of existing ISs to streamline

Service Template

Modify Development Process Flow – Including "Extensions/Gaps"

Process Changes for 2009 Work

- Eliminate development of an RDSS

- Provide IS development scenarios for:
  - Moderate Extensions to existing IS
  - New IS or Service

- Responsible TC decides which scenario best meets needs for each new Use Case

Extensions to Existing IS

- *Scenario 1*: Moderate Change to existing IS :
- One publication cycle for public comment and Inspection Testing that includes:
  - A mark-up of the existing IS (change tracking)
  - Mark-ups of all existing constructs supporting IS (change tracking)
  - Any new constructs

How do we better reflect changes once final version is published? Readability should be addressed.

- *Scenario 2*: Mark-up existing IS (track changes) and release for public comment
  - Used if community consensus is challenge or change is more extensive
  - Disposition comments
    - Publish for public comment/inspection testing
    - Revised IS (change tracking)
    - Revised existing constructs supporting IS (change tracking)
    - Any new constructs

Proposed Process for 2009 Work

- **Scenario 3**: Develop New IS
  - Publish for public comment Sections 1,2, and parts of 3 of the IS template
  - Disposition comments received
  - Publish complete IS for Inspection Testing and Public Comment along with all pertinent existing constructs and any new constructs

Tiger Team To Address Data Elements And Value Sets

Strategy Data Elements and Value Sets (1 of 2)

- Current status
  - Strategy that CMHR has adopted
    - catalog all vocabulary and value sets in C80.
      - Currently CDA documents and some messaging has been addressed, but not all.
    - C83 is a catalog of all CDA template information modules and constraints on those content modules – note that some modules overlap with messages, but not all.
  - Current difficulties
    - Usability - many different constructs have to be traversed to obtain this information.
    - Completion, including breadth of coverage - to accommodate the needs of all other TCs
    - Maintenance – need plan to
      - keep current
      - continue to expand breadth of coverage
      - identify what TC is responsible for that

Strategy Data Elements and Value Sets (2 of 2)

- Proposed plan
  - Tiger team to refine plan that will address the breadth and maintenance of all HITSP needs by working with all other TCs
    - Durwin to lead a tiger team with Bob Yencha as facilitator to include others from IRT, Keith, Floyd, Lori?, Bob Dolin?, someone from SPI?;
    - Value sets, templates, and data elements have some efforts already
    - IRT will review and then make recommendation to TC Leadership
  - XML project will provide tools to support development, maintenance, and usability

- Questions for Tiger Team
  - Do we continue this strategy
  - Is overall strategy defined for addressing data elements, value sets, information modules across all domains in support of all perspectives.

Usability and Authoring Tool

Usability and core authoring tool

- Developing prototype of usability tool that will simplify navigation of an IS set of specifications – will demonstrate end of February

- Plan to extend navigation tool to become authoring tool to simplify construction of tables and to ensure consistency across constructs

- Work with AHRQ to explore use of USHIK tool to address Technical Committee data element needs