HiTSP

Healthcare Information Technology Standards Panel

Report from the Tiger Teams

June 1, 2009

Presented by:

HITSP Tiger Team Co-Chairs

enabling healthcare interoperability

Tiger Team Leadership

- ❑ **EHR Centric Interoperability Specification – 127 members**
  - Manick Rajendran, eZe Care LLC
  - Corey Spears, McKesson Health Solutions
  - Mike Nusbaum, Staff Co-chair

- ❑ **Harmonization Framework and Information Exchange Architecture – 97 members**
  - Steve Hufnagel, PhD, DoD/Medical Health System (MHS)
  - Ed Larsen, Staff Co-chair

Tiger Team Leadership

- ❑ **Quality Measures - 110 members**

  - – Floyd Eisenberg, MD, MPH, National Quality Forum

  - – Eileen Koski, M. Phil

  - – Lori Reed-Fourquet, Staff Co-chair

- ❑ **Data Architecture (Element, Template and Value Set) – 133 members**

  - – Keith Boone, GE Healthcare

  - – Don Bechtel, Siemens Medical Solutions

  - – Don Van Syckle, Staff Co-chair

Tiger Team Leadership

❑ **Security, Privacy & Infrastructure - 119 members**

 – Glen Marshall, Grok-A-Lot, LLC

 – John Moehrke, GE Healthcare
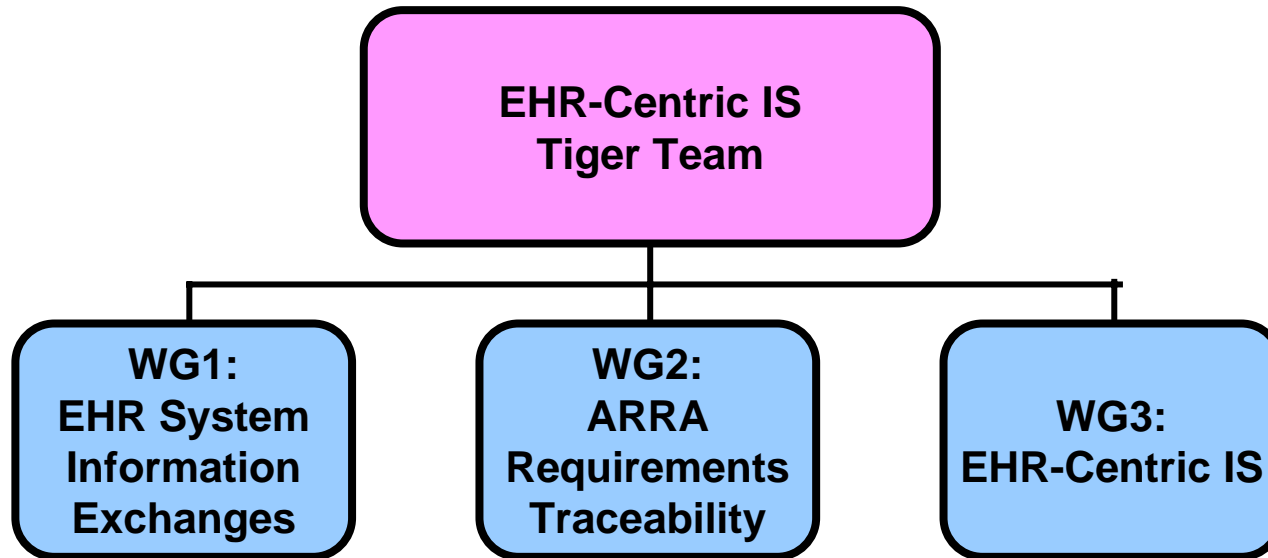
 – Johnathan Coleman, Staff Co-chair

❑ **Clinical Research - 75 members**

 – Walter Suarez, MD, Institute for HIPAA/HIT Education and Research

 – Gene Ginther, Staff Co-chair

Total Tiger Team Membership – 288 individuals

Report from the EHR Centric Interoperability Specification Tiger Team - Structure

EHR-Centric IS: Description of Deliverables

Deliverable	Description	Interim / Final
EHR System Information Exchanges	Create a document that identifies *capabilities* from each of the 13 accepted and recognized HITSP Interoperability Specifications. For each "capability", identify EHR-specific interoperability components and related constructs, identifying all standards selected and harmonized in preparation for mapping to the new HITSP EHR-centric Interoperability Specification.	Interim
ARRA Requirements Traceability	In conjunction with the SPI and Quality Tiger Teams, identify each requirement from the ARRA legislation that impacts the EHR. For each ARRA requirement, indicate which of the HITSP Interoperability Specification *capabilities* satisfy that requirement, either in full or in part. Document gaps or recommendations where ARRA requirements are not met by HITSP Interoperability Specifications, either in full or in part.	Interim
EHR-Centric IS	Using interim documents noted above, populate and complete the HITSP EHR-centric Interoperability Specification, including all tables and textual descriptions.	Final

EHR-Centric IS document – Table of Contents

1.0   INTRODUCTION

1.1 Interoperability Specification Overview

1.2 Copyright Permissions

2.0   <SYSTEM> INTEROPERABILITY

2.1 HITSP Information Exchange Capabilities Mapped to ARRA Requirements

2.2 Conformance Statement

3.0   CAPABILITY INTEROPERABILITY SPECIFICATIONS

3.1   <Capability Name> Specification

3.1.1 <Capability Name> Overview and Scope

3.1.2 Capability Use

3.1.3 Design Specification

        3.1.3.1   Constraints and assumptions

        3.1.3.2   List of Constructs (has name and description columns).

        3.1.3.3   Supporting Constructs

        3.1.3.4   Capability Options (Transport, coded subsets, …)

        3.1.3.5   Gaps (either from ARRA or those relevant from ISs)
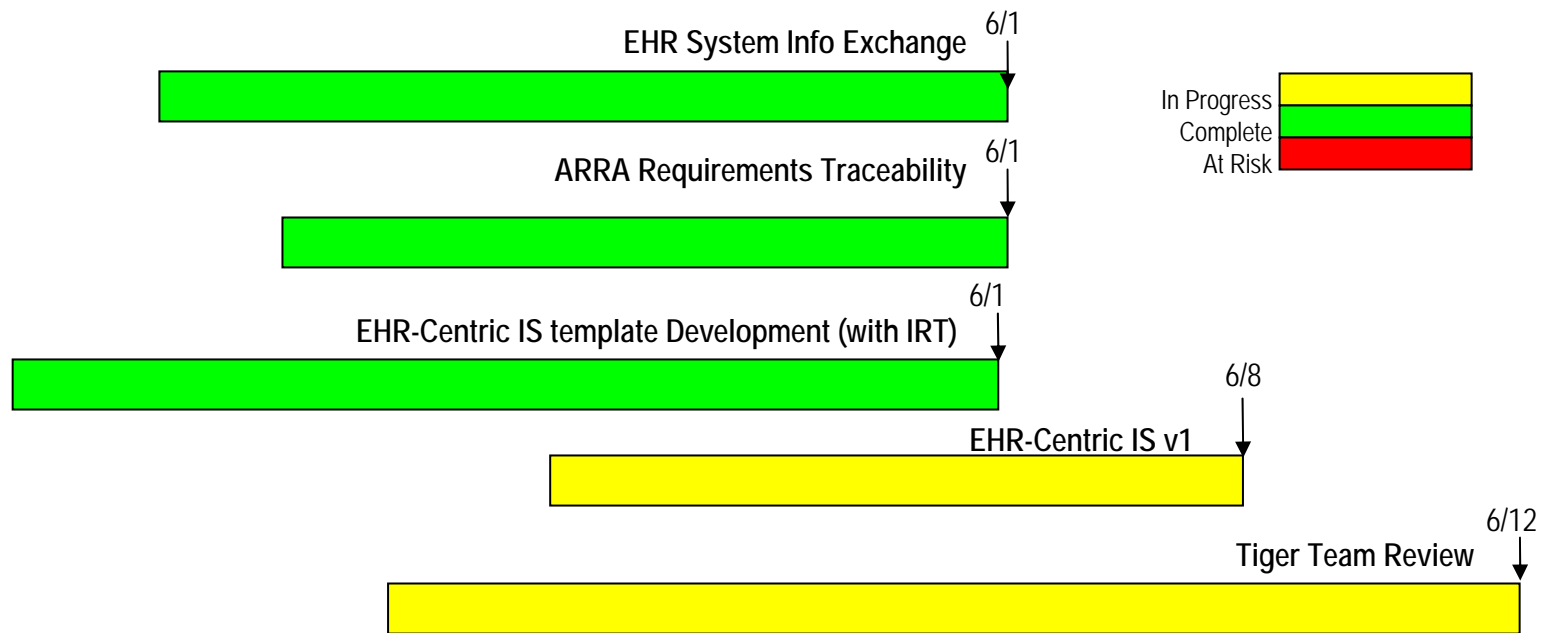
4.0   APPENDIX

4.1 Capability mapping to IS/Scenario

4.2 IS/Scenario mapping to ARRA requirements

5.0   DOCUMENT UPDATES

EHR-Centric IS: Status of Deliverables

EHR System Info Exchange — 6/1

ARRA Requirements Traceability — 6/1

EHR-Centric IS template Development (with IRT) — 6/1

EHR-Centric IS v1 — 6/8
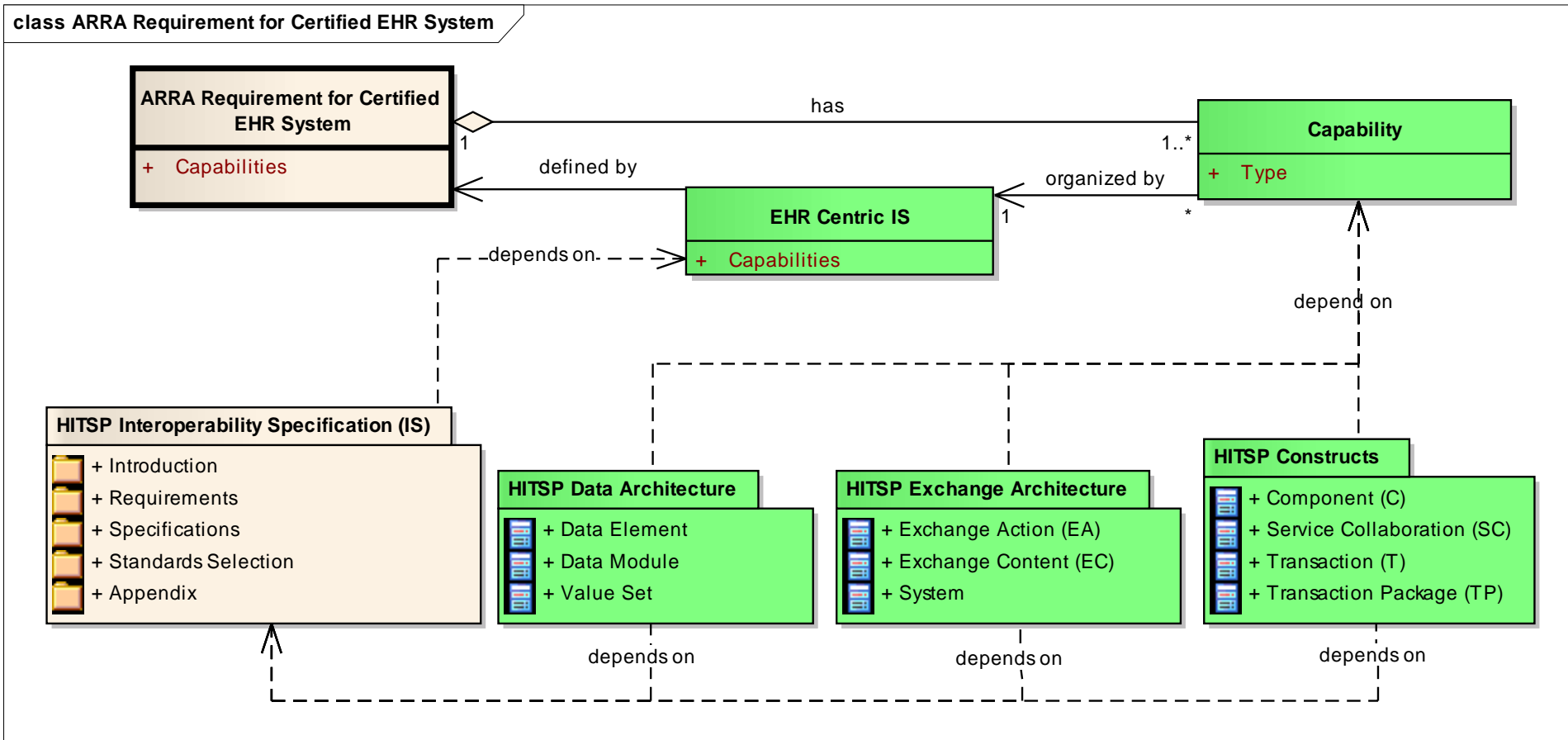
Tiger Team Review — 6/12

In Progress
Complete
At Risk

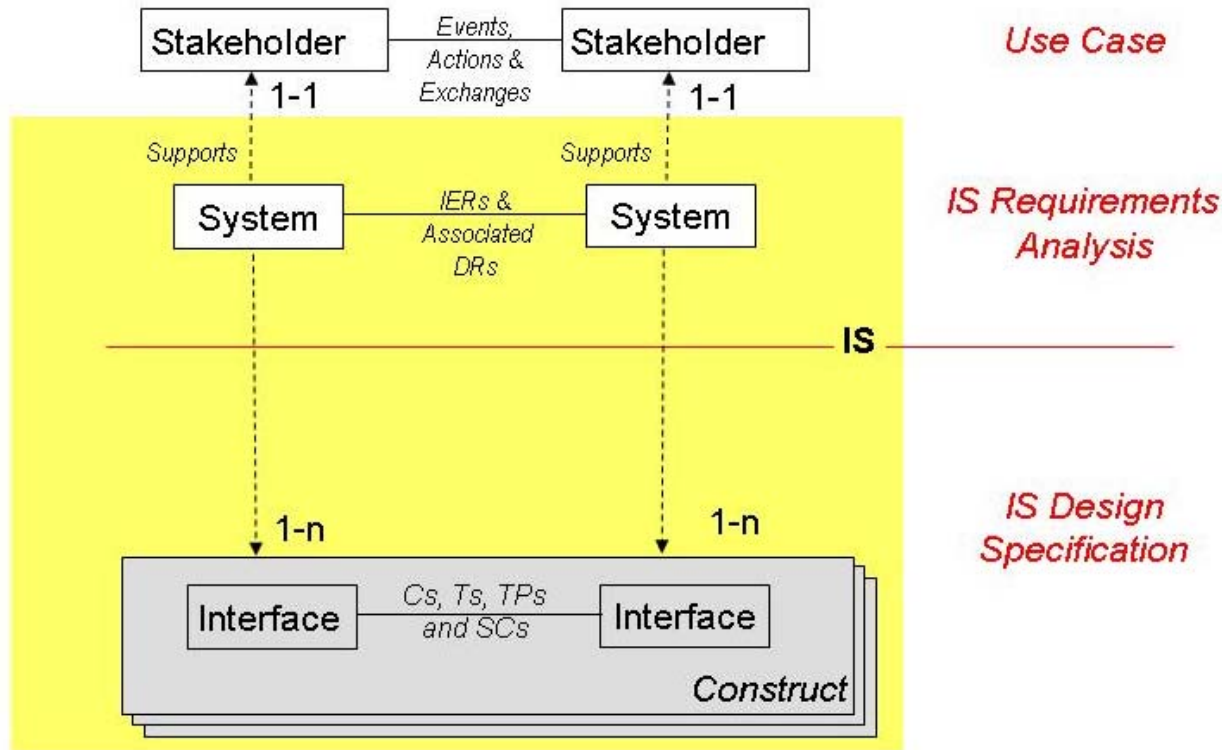# Report from the Harmonization Framework and Information Exchange Architecture Tiger Team

❑ The *Harmonization Framework* defines the terms, concepts and their relationships within

  – a HITSP Interoperability Specification and within

  – HITSP Component (**C**), Transaction (**T**), Transaction Package (**TP**) and Service Collaboration (SC) constructs.

❑ The *Exchange Architecture* defines the fundamental topologies that can be used in implementing the HITSP Interoperability Specifications in systems.

  – EHR systems connected to independent Health Information Exchanges (HIEs),

  – HIEs connected to the NHIN or directly connected.

Report from the Harmonization Framework and Information Exchange Architecture Tiger Team

The figure shows the capabiliy relationship of HITSP artifacts to the ARRA requirements as HITSP's approach to developing the EHR Centric Interoperability Specification.

Report from the Harmonization Framework and Information Exchange Architecture Tiger Team

The figure shows how Stakeholders, Systems, Interfaces, Information Exchange Requirements (**IERs**), Data Requirements (DRs), and HITSP Interoperability Specification (IS), Component (C), Transaction (T) and Transaction Package (TP) constructs inter-relate.
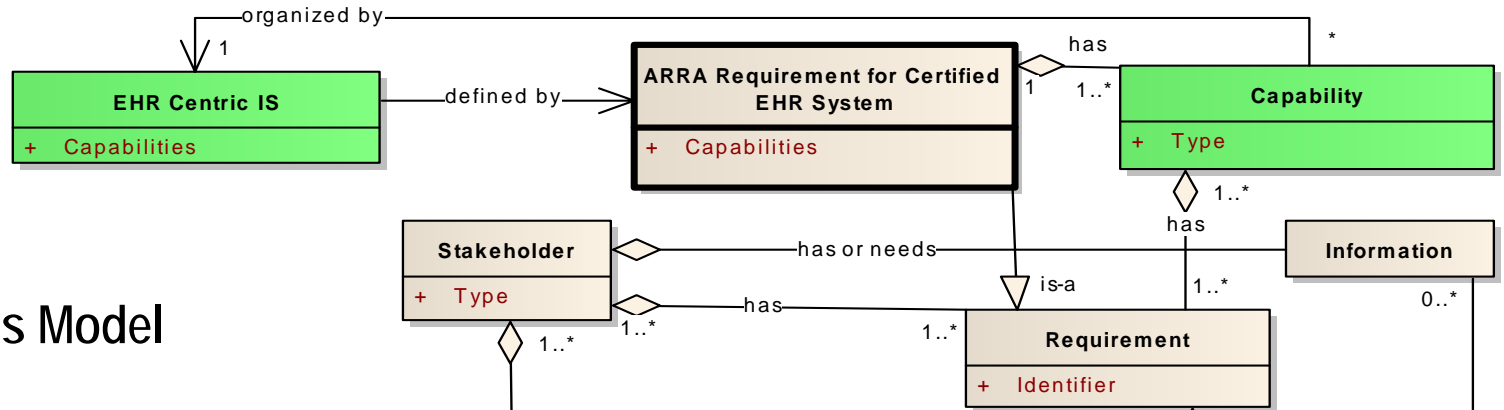
Report from the Harmonization Framework and Information Exchange Architecture Tiger Team

A *HITSP Capability* is in the interoperability space between Systems;

- supports business-process information-exchange requirements among systems;

- specifies System's Interfaces using HITSP constructs.

- In the HITSP IS Requirements Section, a capability supports a named set of requirements needed to generate a desired outcome.

- In the HITSP IS specifications section a capability is a named set of HITSP constructs, which contain the specifications needed to generate a desired outcome.

- The Implementation of a System supporting a specific capability is conformant if its interface meets the design specifications specified for the Capability.

Report from the Harmonization Framework and Information Exchange Architecture Tiger Team
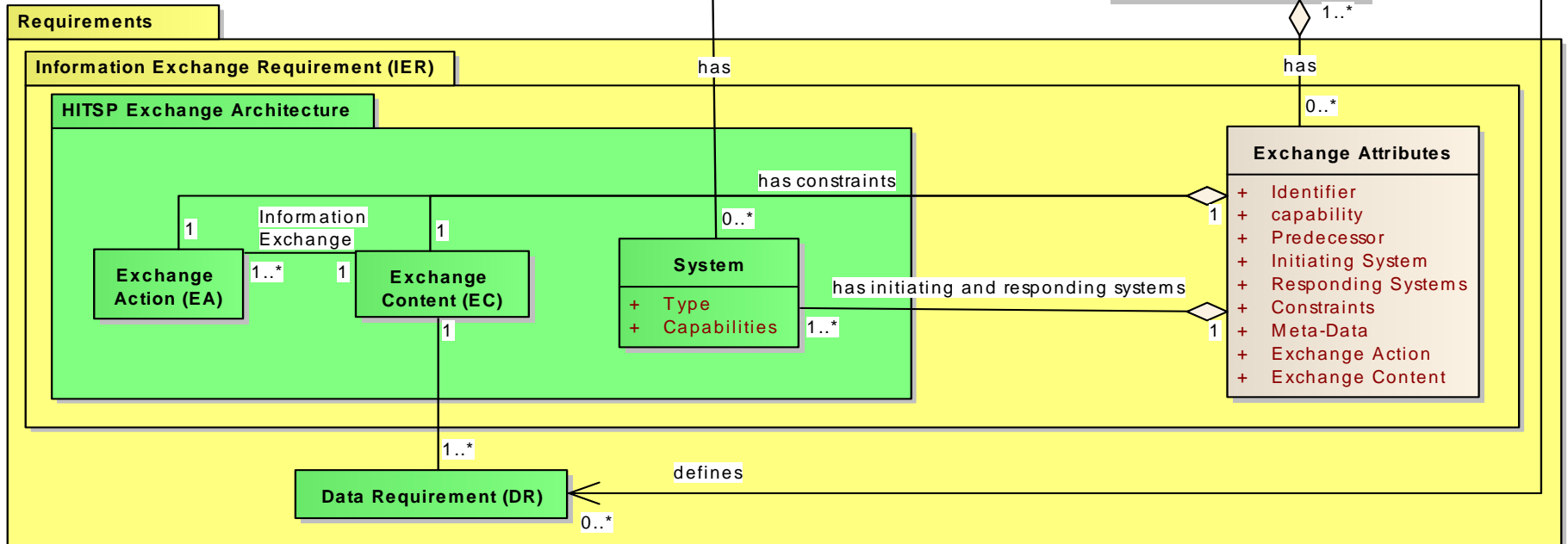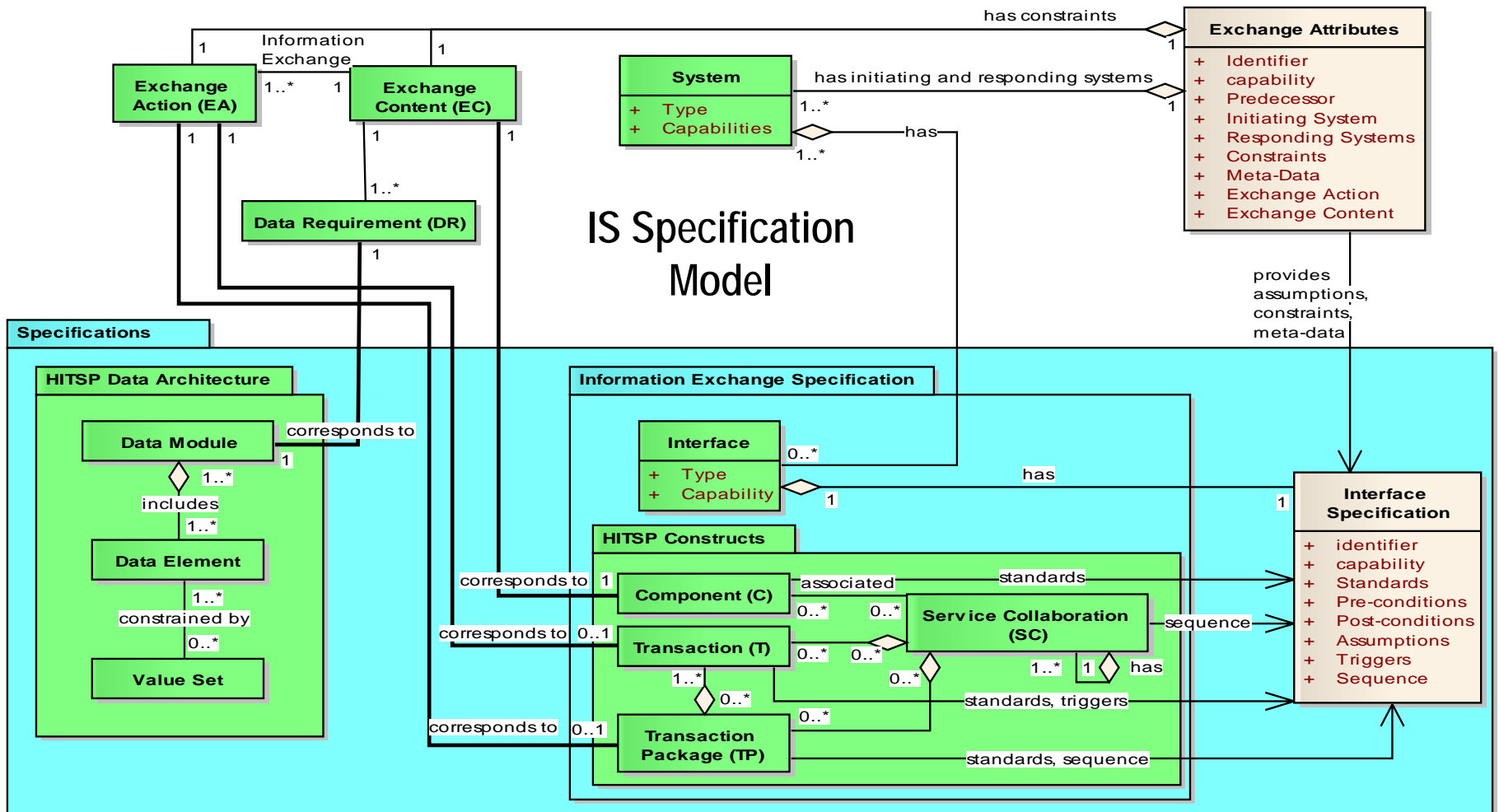
Report from the Harmonization Framework and Information Exchange Architecture Tiger Team

Sample Information Exchange Requirement

| IER # (Local to IS)	IER Name (Local to IS)	Exchange Action	Exchange Content	What System initiates this exchange?	What System (s) responds to this exchange?	Exchange Attribute
		Send	Blood Lab Report	Laboratory Information System	☐ PHR System ☐ EHR System ☐ Public Health Information System	TBD
		Send	Specimen Lab Report	Laboratory Information System	☐ PHR System ☐ EHR System ☐ Public Health Information System	TBD

Report from the Harmonization Framework and Information Exchange Architecture Tiger Team

Report from the Harmonization Framework and Information Exchange Architecture Tiger Team

Notional Exchange Architecture Topologies
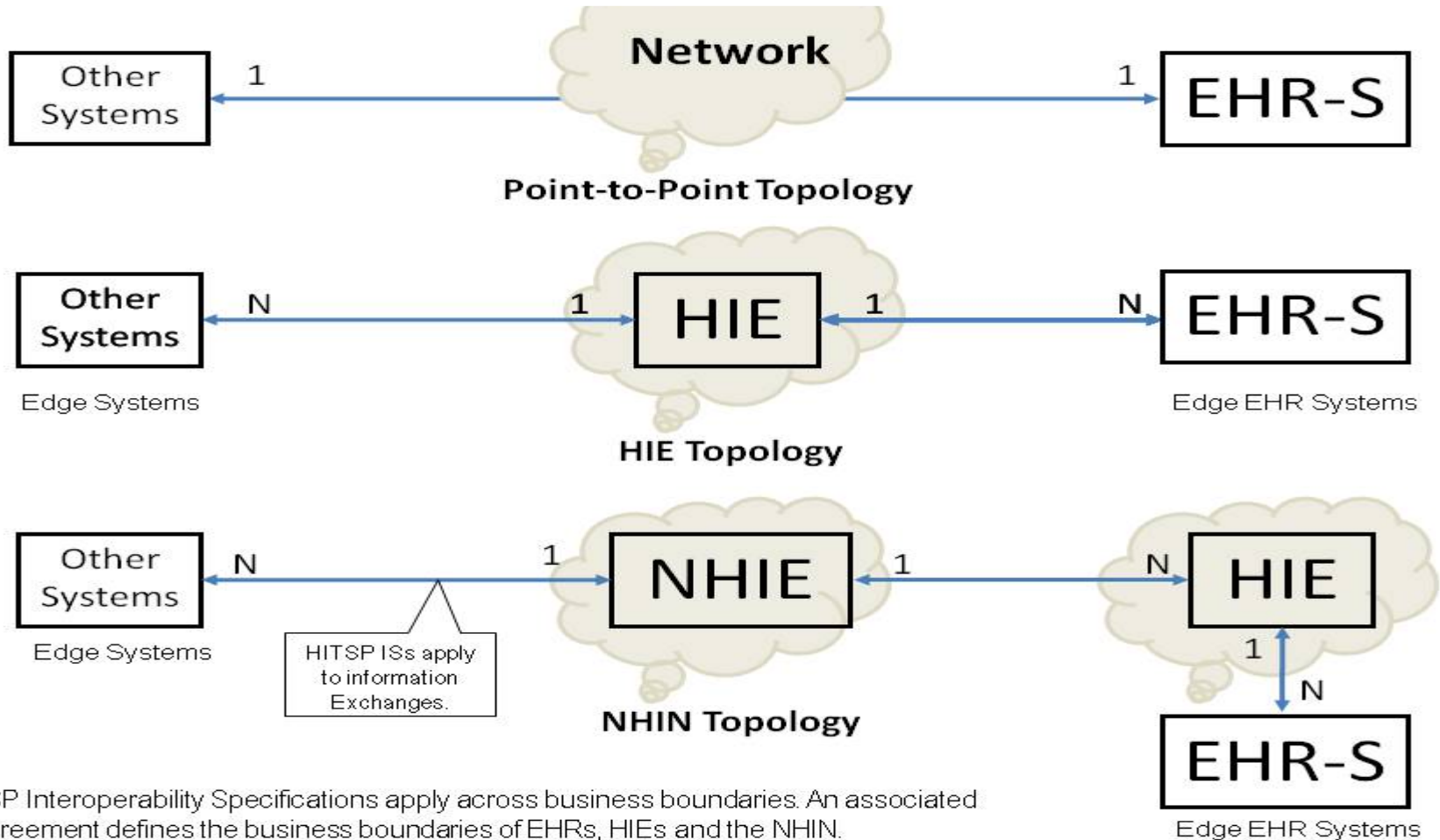
NOTE: HITSP Interoperability Specifications apply across business boundaries. An associated business agreement defines the business boundaries of EHRs, HIEs and the NHIN. Nationwide Health Information Exchange (**NHIE**) is the mechanism of connecting HIEs to the NHIN.

Report from the Quality Measures Tiger Team

❑ CMS Inpatient Measures Project

- Data elements defined in context of EHR

- Value set development progressing

- Required constructs / changes on target

- Technical note (September) to include re-tooling recommendations

Report from the Quality Measures Tiger Team

NEW: Establish Construct for Measure Specification Communication
NEW: Establish Construct for Patient-level and aggregate-level reporting (QRDA)
Updates to C34, C38 – patient level quality data – to include attributes not previously considered (e.g. anesthesia record, etc)
Update Gaps listed in IS06 – and resolution plan (e.g. comfort measures, clinical trials, time last known well, how to identify an ED patient)
Update construct references in IS06: QRDA, Measure specification, add reference to Value sets (T66), update associated transactions to bring in these constructs,
Update IS06 with HITSP tiger team IS revisions to support simplification of IS constructs

Report from the Data Architecture (Element, Template, and Value Set) Tiger Team

- ❑ Ensure Data Element consistency across HITSP specifications
  - – Map to Data Elements, Modules, Value Sets (for HITSP constrained data)

  - – Using SMEs to identify the list of inconsistencies

  - – **Deliverable:** Document Identifying Data Elements and Value Sets that are inconsistent within HITSP constraints. Provide recommendations if possible, or suggest further harmonization efforts

Report from the Data Architecture (Element, Template, and Value Set) Tiger Team

❑ Support Metadata Registries
   – Incorporate HITSP Constrained Data into AHRQ - USHIK
   – HITSP constrained data elements and small value sets are first priority
   – Establish strategy for incorporation of detailed value set information. This strategy will integrate AHRQ-USHIK and CDC (PHIN-VADS) capabilities.
   – Establish strategy for identification and population of template repository with HITSP artifacts work may be too early.

Report from the Data Architecture (Element, Template, and Value Set) Tiger Team

❑ **Support Meta-data Registries (con't)**

– Develop a strategy for Updating AHRQ-USHIK With Complete Data Element/Value Sets for HITSP Selected Standards

– Defining "Stakeholder" view requirements. This includes the definition of the data elements and functions desired for each view. Stakeholders include Policy Makers, Health Care Provider/Business Organizations, Public Health, Implementers

– Requirements for Stakeholders includes the joint Effort with the QM TT to incorporate quality measures data elements and value sets

Report from the Data Architecture (Element, Template, and Value Set) Tiger Team

- ❑ **Support Meta-data Registries Deliverables**
  - Coordination with HITSP Production Tool Tiger Team to Improve HITSP Production which is much to manual and time-consuming

  - **Deliverable:** Technical Note to layout Terminology, Requirements and Strategies This includes Data Element, Value Sets and Template Requirements. Discussion of how Data Elements, Value Sets and Templates fit into HITSP, Registry Properties Section and Recommendations on the maintenance of all these components.

  - **Post-ARRA** Current effort will provide recommendations and strategies. Project work to implement the body of work will need to occur. This work include HITSP Tooling, implementation and population of Registries/Repositories

Report from the Security, Privacy and Infrastructure Tiger Team

❑ Task 1: ARRA Requirement Analysis

❑ Task 2: Develop Service Collaboration Suites

❑ Task 3: Update 29 SPI constructs to new format

SPI Task 1: ARRA Requirements Analysis

❑ Identified requirements from ARRA applicable to HITSP Security, Privacy and Infrastructure

❑ Identified and Catalogued construct capabilities from existing 29 SPI constructs

❑ Performed Gap Analysis of construct capabilities against ARRA requirements

❑ Developed Gaps & Recommended Resolution document: (12 gaps identified)

Task 2: SPI Service Collaboration Suite

IS documents/Workflows

EHR Centric IS

All other ISxxx

Transaction Packages (e.g. TP30)

Transactions (e.g. T29)

Component (e.g. C26)

Service Collaboration Suites

Query for Existing Data		Healthcare Document Management		Healthcare Images	
Normative	Informative	Normative	Informative	Normative	Informative

Patient Identity Management		Knowledge and Vocabulary		All other Service Collaboration Documents
Normative	Informative	Normative	Informative	

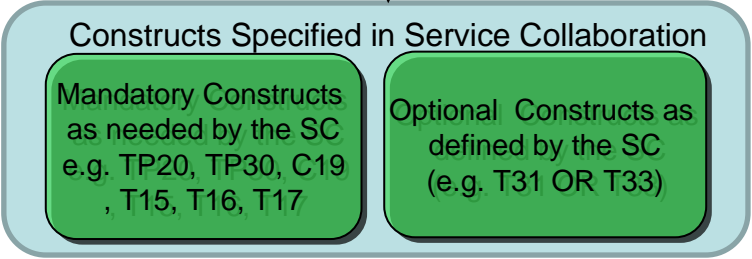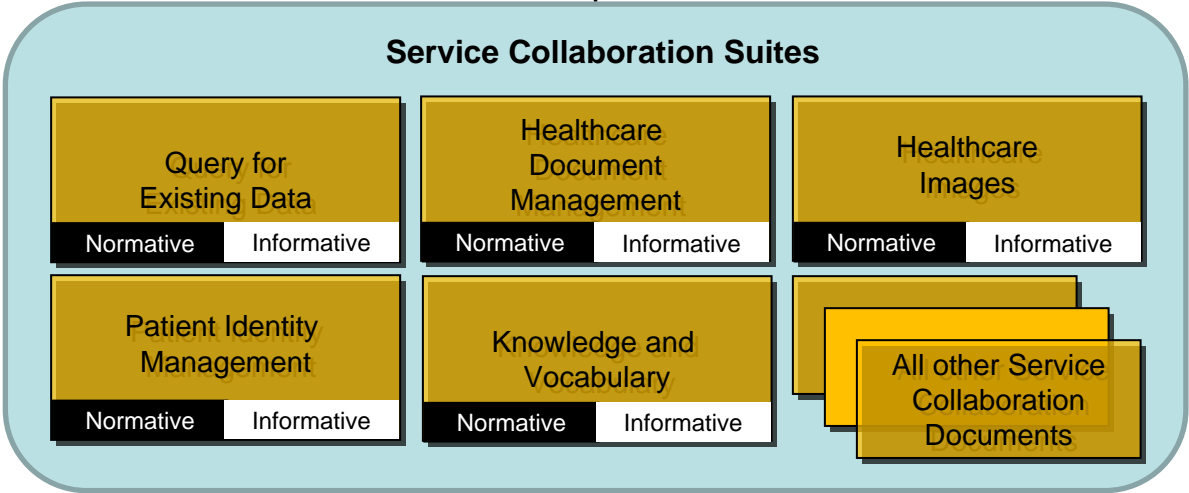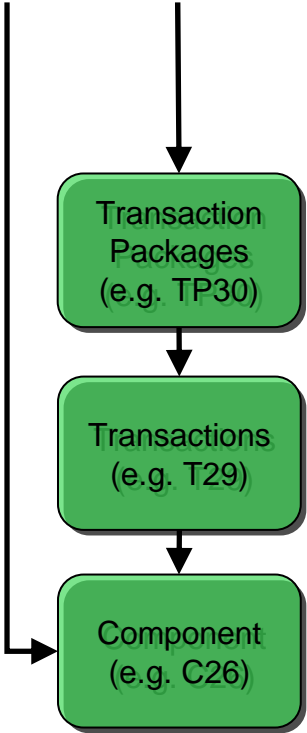### Constructs Specified in Service Collaboration

Mandatory Constructs as needed by the SC e.g. TP20, TP30, C19 , T15, T16, T17

Optional Constructs as defined by the SC (e.g. T31 OR T33)

Task 2: SPI Service Collaboration Suite

SC #	Service Collaboration (SC) Title	# of Service Interfaces
SCxx1	Access Control	1
SCxx2	Knowledge and Vocabulary	4
SCxx3	Patient Identity	8
SCxx4	Query for Existing Data	2
SCxx5	Security Audit	1
SCxx6	Healthcare Document Management	12
SCxx7	Emergency Message Distribution Element	1
SCxx8	Healthcare Images	t.b.d.
SCxx9	Form for Data Capture	t.b.d.
SCxx10	Referral Request	t.b.d.
SCxx11	Administrative Transport to Health Plan	t.b.d.

Example: SCxx4 – Query for Existing Data Black Box
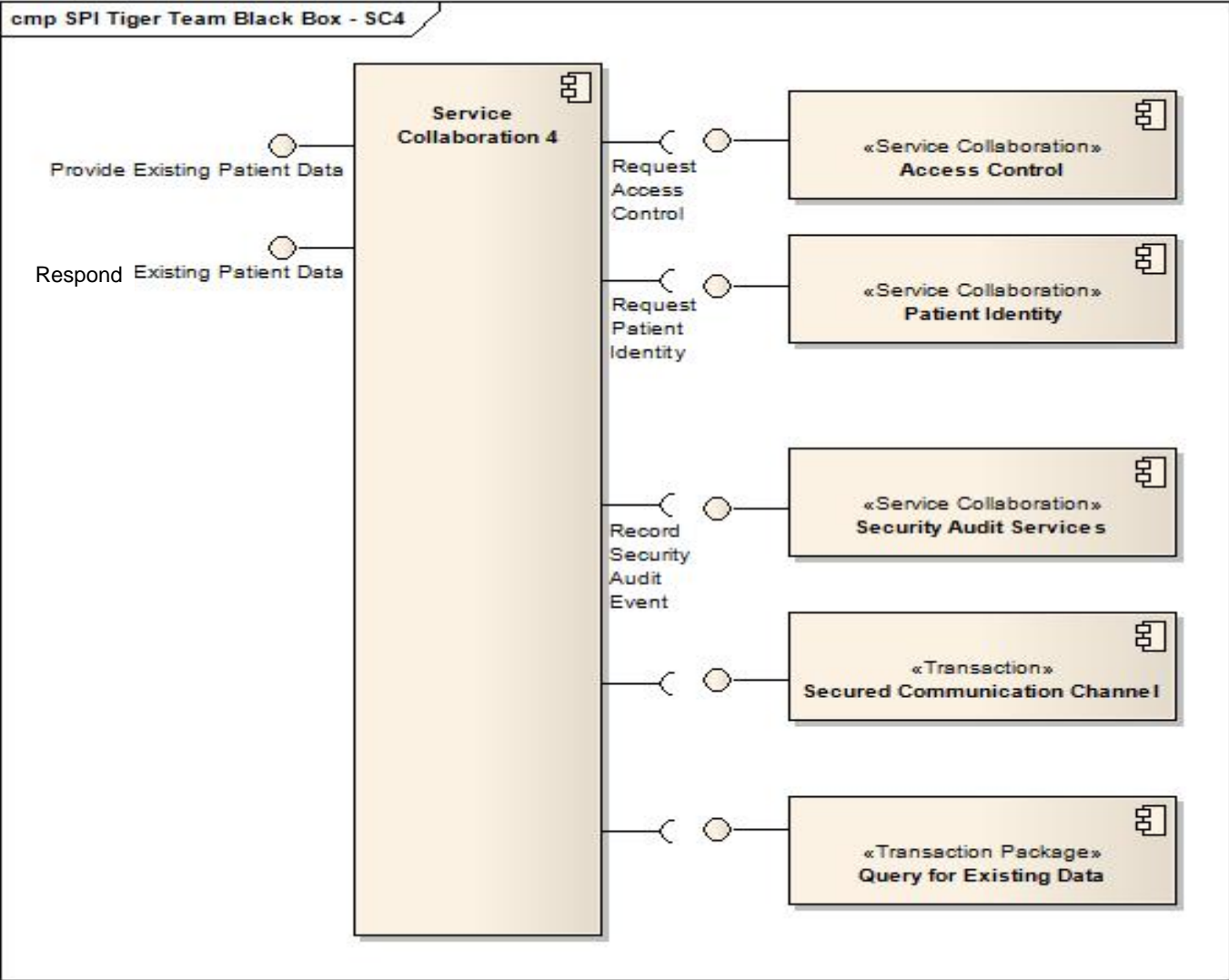
Example: SCxx4 – Query for Existing Data White Box
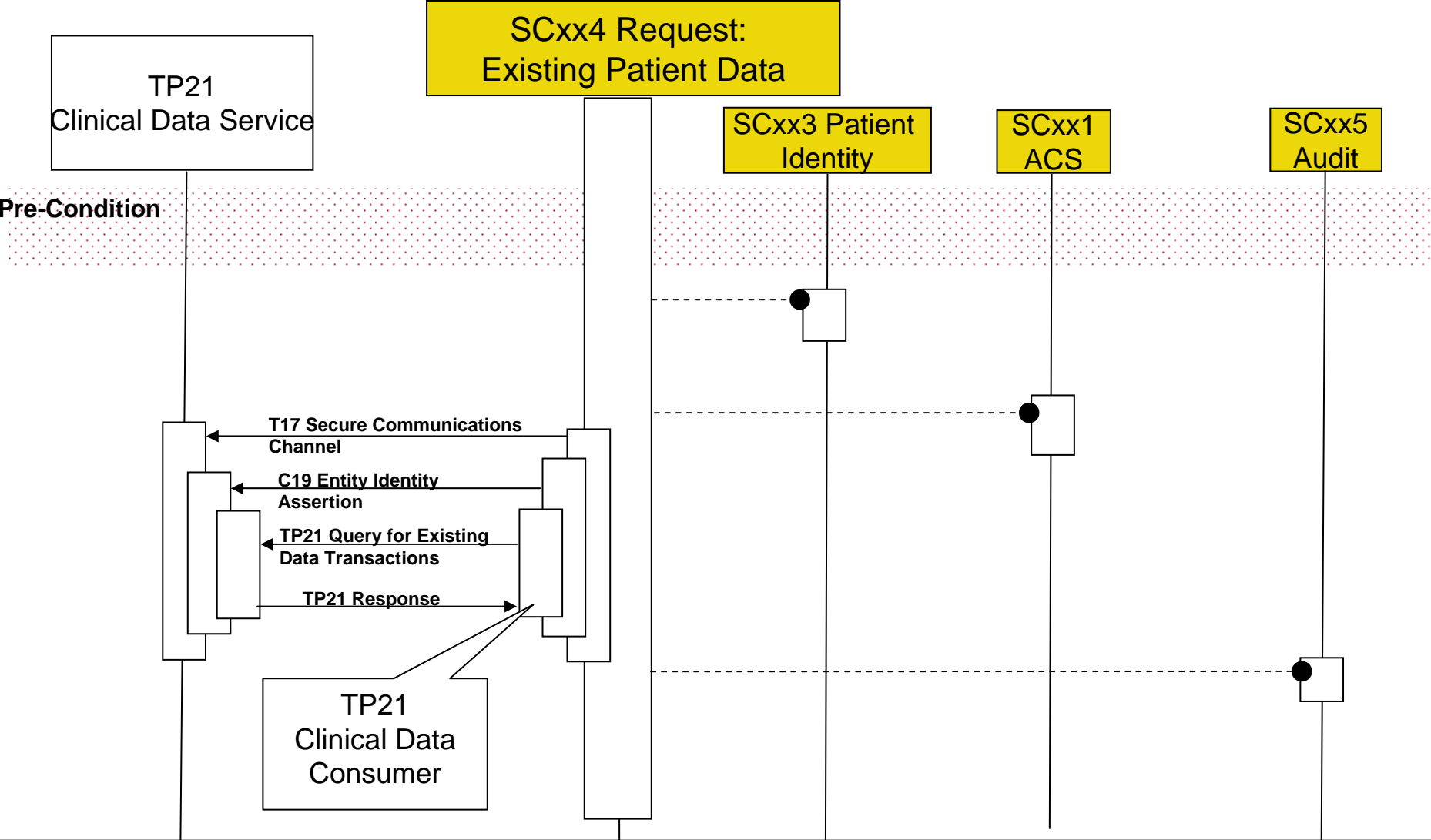
Simplification Example:
IS-09 Consultations and Transfers of Care

❑ Previous model:

  –72 Rows in the "big table" for EHR today

❑ New model with Service Collaborations:

  –30 Rows are Content ➔ Stay

  –2 Rows Use Document Management SC

  ➓ Send Document

  ➓ Receive Document

  –1 Row for Receiving Imaging SC

  –2 Rows for Sending/Receiving Referral SC

  –1 Row for Get Value-Set SC

❑ Simplification Result: 36 out of 72 rows (50% size of original)