

Health IT Interoperability: HITSP Overview, Update and Discussion

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Health IT Strategy & Policy

- Introductory Overview of HITSP
- HITSP Technical Committee Organization
- HITSP Standards Harmonization Process
- HITSP Interoperability Specifications and Standards
- Using The Specifications: KP-VA Exchange In NHIN
- Upcoming Topics At The Frontier of Interoperability

- **Introductory Overview of HITSP**
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- **To harmonize and integrate diverse standards that will meet clinical and business needs for sharing information among organizations and systems.**
 - Establish HITSP Interoperability Specifications and promote their acceptance;
 - Support the deployment and implementation of HITSP Interoperability Specifications across the health care enterprise;
 - Facilitate the efforts of standards developing organizations to maintain, revise or develop new standards as required to support the HITSP Interoperability Specifications.

Harmonized standards promote interoperability, enhance healthcare quality and contain costs

HITSP and Its Stakeholders



**Patients
Consumers
Employers
General
Practitioners**

**Specialists
Payers
Suppliers
Hospitals**

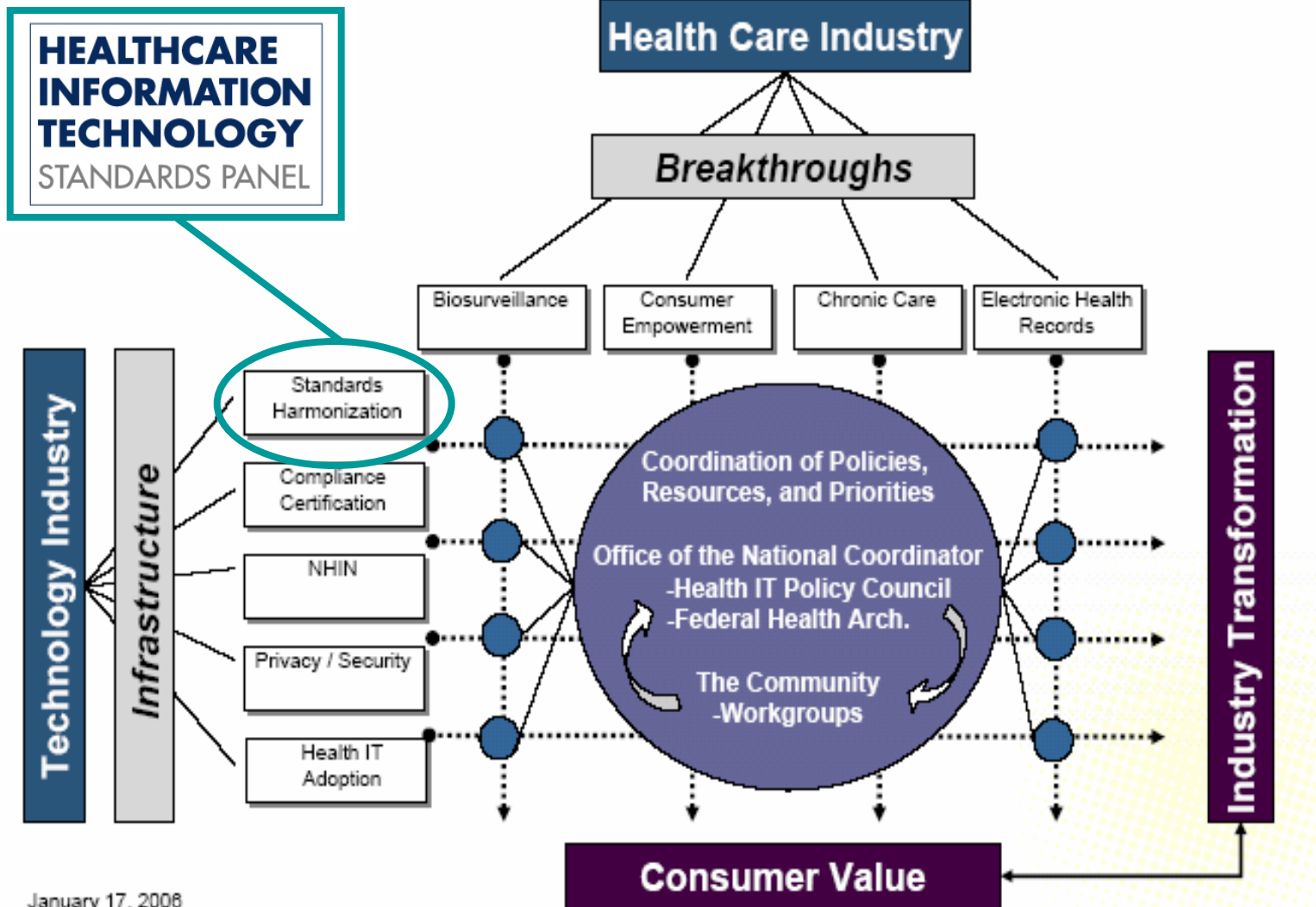
**Review Boards
Practice
Guidelines
Residential
Care Providers**

**Outpatient
Healthcare
Providers
Government
Agencies**



**HITSP - volunteer-driven, consensus-based organization,
funded by the US Department of Health and Human Services**

HITSP In The DHHS Strategy



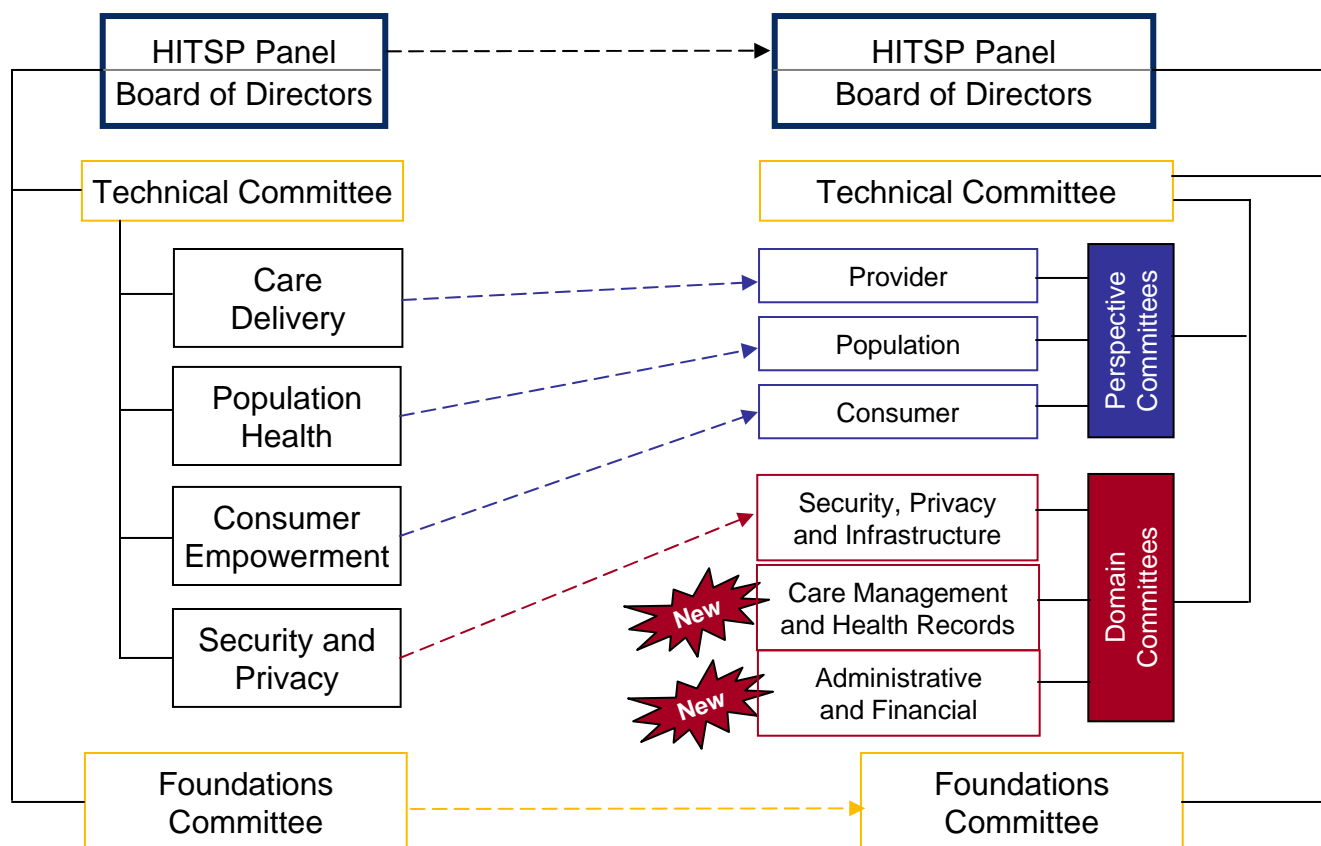
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HITSP Technical Committees: Recent Transition, Q1 2008

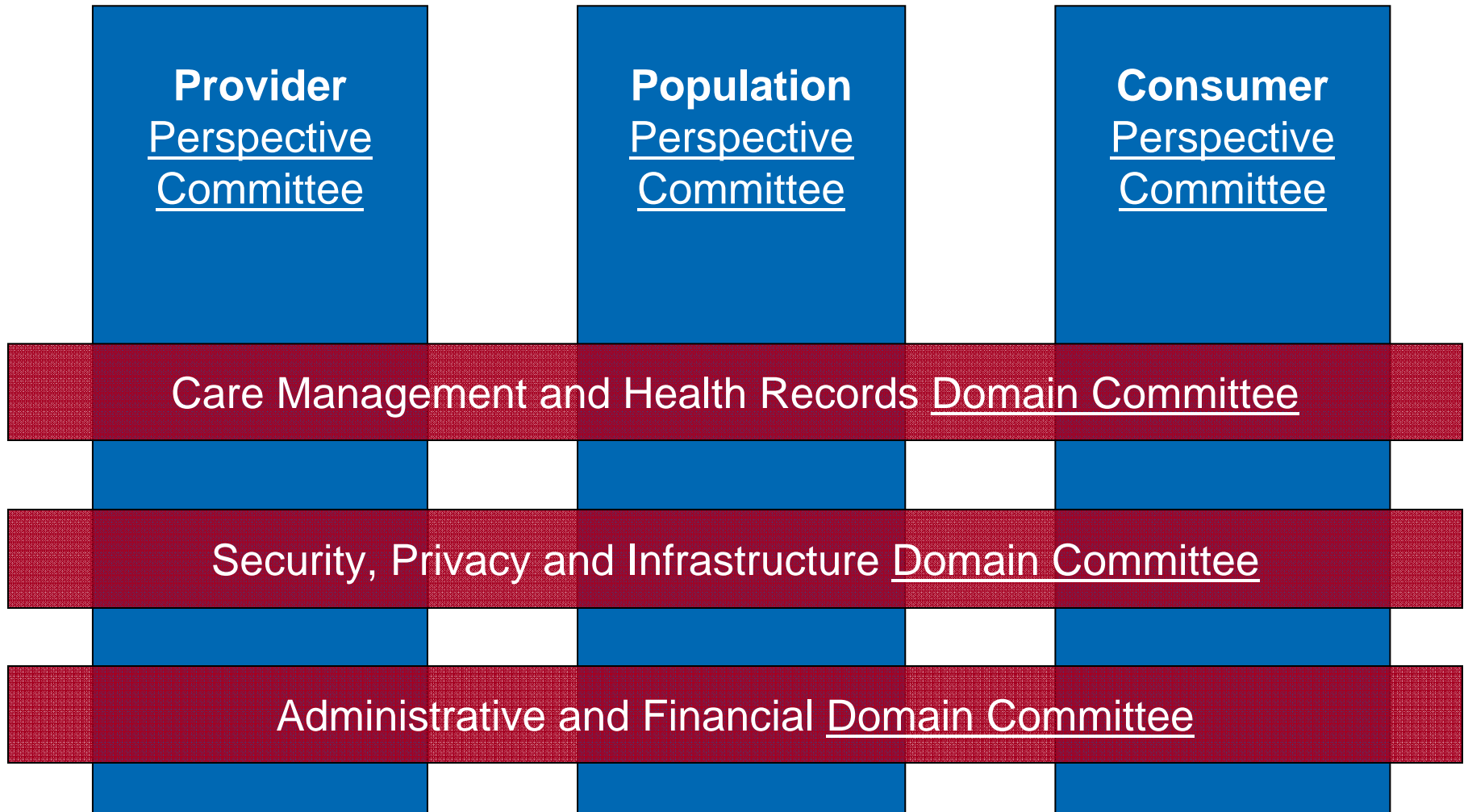


OLD TC STRUCTURE

NEW TC STRUCTURE

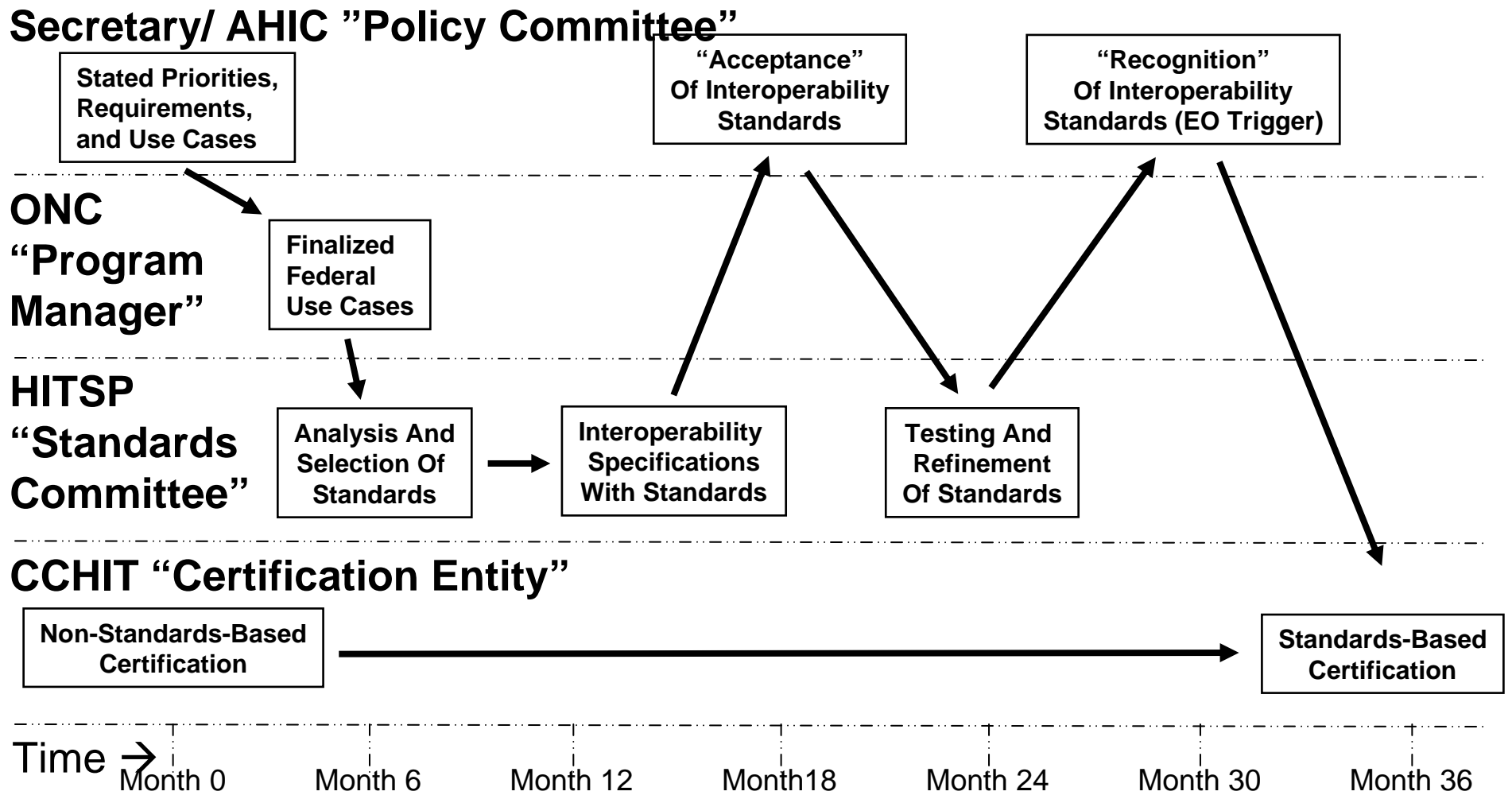


HITSP Technical Committees: A Matrix Organization



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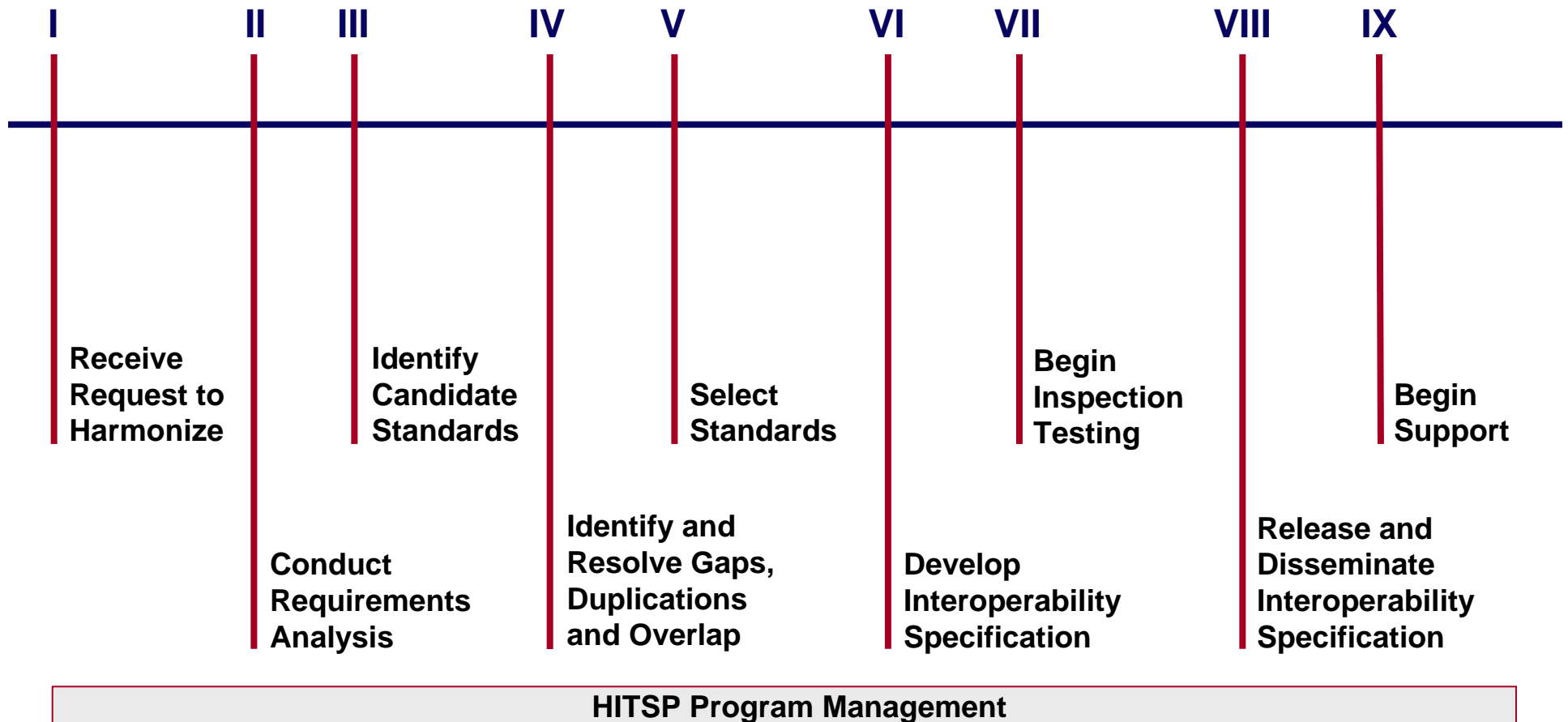
Process Overview Federal Interoperability Standards



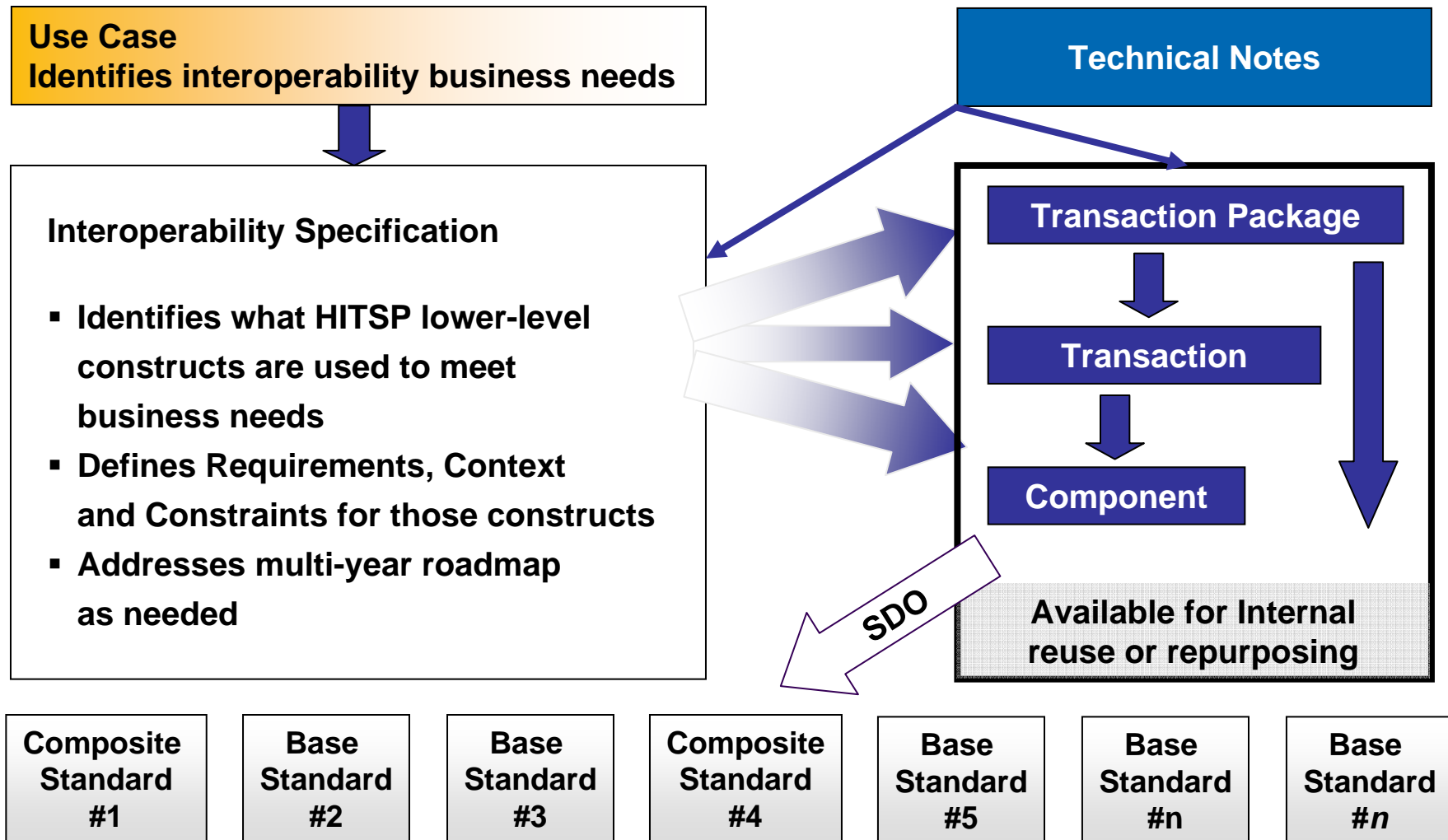
- **HITSP members agreed that a **standard** is a well-defined approach that supports a business process and . . .**
 - has been agreed upon by a group of experts;
 - has been publicly vetted;
 - provides rules, guidelines, or characteristics;
 - helps to ensure that materials, products, processes and services are fit for their intended purpose;
 - is available in an accessible format;
 - is subject to an ongoing review and revision process.

Standards Harmonization is required when a proliferation of standards *prevents* progress rather than *enabling* it.

Steps in the HITSP Harmonization Process



HITSP Harmonization Framework



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About Federal Recognition of Interoperability Specifications



■ HITSP Interoperability Specification Status

1. **Released:** HITSP “Approved” by the full Healthcare IT Standards Panel
2. **Accepted:** DHHS Secretary “Accepted” for a one year period of testing and implementation prior to Recognition
3. **Recognized:** DHHS Secretary “Recognized” standards for use by Agencies and contractors. Recognition triggers certain legal requirements:

■ Executive Order: Promote Quality and Efficient Health Care in Federal Government administered or Sponsored Health Care Programs: Sec. 3. Agencies shall perform the following functions: Health Information Technology -

- For Federal Agencies. As each agency implements, acquires, or upgrades health information technology systems used for the direct exchange of health information between agencies and with non-Federal entities, it shall utilize, where available, health information technology systems and products that meet recognized interoperability standards.

■ Federal Contracts: (FEHB example)

- ... (a) The Carrier agrees that as it implements, acquires, or upgrades health information technology systems, it shall utilize, where available, certified health information technology systems and products that meet interoperability standards recognized by the Secretary of Health and Human Services, as existing on the date of the implementation, acquisition, or upgrade of health information technology systems (“Interoperability Standards”)...

DHHS-Recognized HITSP Interoperability Specifications



Recognized

<u>IS 01</u>	<u>Electronic Health Record (EHR) Laboratory Results Reporting Interoperability Specification (Complete Set)</u> The purpose of this Interoperability Specification is to describe the top-level specification for the HITSP EHR Use Case. This Use Case comprises two scenarios that describe the entities and interactions that would be needed to implement an electronic EHR or other clinical data system with a laboratory interface.	Version 2.1
<u>IS 02</u>	<u>Biosurveillance Interoperability Specification (Complete Set)</u> Biosurveillance is an American Health Information Community breakthrough area defined as implementation of near real-time, nationwide public health event monitoring to support early detection, situational awareness and rapid response management across care delivery, public health and other authorized Government agencies.	Version 2.1
<u>IS 03</u>	<u>Consumer Empowerment Interoperability Specification (Complete Set)</u> The HITSP Consumer Empowerment Interoperability Specification identifies a subset of the functional components of the healthcare enterprises and health information networks called HITSP actors and specifies their interactions in terms of a set of coordinated, standards-based transactions. This document, the HITSP Consumer Empowerment Interoperability Specification, defines specific implementations of established standards intended to achieve integration goals that promote appropriate exchange of a consumer's personal health record information.	Version 2.1

p.1 of 2: DHHS-Accepted Interoperability Specifications



Accepted

<u>IS 03</u>	<u>Consumer Empowerment and Access to Clinical Information via Networks Interoperability Specification (Complete Set)</u> The HITSP Consumer Empowerment Interoperability Specification identifies a subset of the functional components of the healthcare enterprises and health information networks called HITSP actors and specifies their interactions in terms of a set of coordinated, standards-based transactions. This document, the HITSP Consumer Empowerment Interoperability Specification, defines specific implementations of established standards intended to achieve integration goals that promote appropriate exchange of a consumer's personal health record information.	Version 3.0
<u>IS 04</u>	<u>Emergency Responder Electronic Health Record (ER-EHR) Interoperability Specification (Complete Set)</u> Pre-hospital care and emergency response lack interoperable information technology infrastructure and Standard Development Organizations (SDO) consensus standards. From an interoperability perspective, the American Health Information Community (AHIC) Emergency Responder Use Case treats pre-hospital care similar to hospital care in spite of heterogeneous pre-hospital organizational structures and overlapping policy jurisdictions which must deal with cross-affinity domain interactions, poor communications, emerging technologies and policies. Additionally, first responders must potentially deal with unreliable communications, power and failure prone systems while working under stressful conditions with inadequate resources. The Care Delivery Technical Committee (CDTC) was challenged by wanting to focus on interoperability, achieve closure, be pragmatic and have a futuristic perspective.	Version 1.1

Accepted

<u>IS 05</u>	<u>Consumer Empowerment and Access to Clinical Information via Media Interoperability Specification (Complete Set)</u> The HITSP Consumer Empowerment and Access to Clinical Information via Media Interoperability Specification identifies a subset of the functional Components of the healthcare enterprises and health information networks, called "HITSP actors," and specifies their interactions in terms of a set of coordinated, standards-based Transactions. This document defines specific implementations of established standards intended to achieve integration goals that promote appropriate exchange of a consumer's personal health record information.	Version 1.0
<u>IS 06</u>	<u>Quality Interoperability Specification (Complete Set)</u> This section provides a high level definition of this Interoperability Specification and background information about the underlying Use Case that it is based upon. This Quality Interoperability Specification is designed to enable interoperable, electronic quality (eQuality) monitoring. This process provides implementers with a set of standards and workflows to enable that eQuality monitoring.	Version 1.0

Released (Panel-Approved) Interoperability Specifications



Released (Panel Approved)

<u>IS 02</u>	<u>Biosurveillance Interoperability Specification (Complete Set)</u> Biosurveillance is an American Health Information Community breakthrough area defined as implementation of near real-time, nationwide public health event monitoring to support early detection, situational awareness and rapid response management across care delivery, public health and other authorized Government agencies.	Version 3.0
<u>IS 07</u>	<u>Medication Management Interoperability Specification (Complete Set)</u> The HITSP Medication Management Interoperability Specification describes the information flows, issues and system capabilities that apply to the multiple organizations participating in medication management. It is intended to facilitate access to necessary medication and allergy information for consumers, clinicians, pharmacists, health insurance agencies, inpatient and ambulatory care, etc.	Version 1.0

Recognized/Accepted Standards in Interoperability Specifications



- Secretary currently Accepted 60 standards from 2007 use cases
- Secretary currently Recognized 52 standards from 2006 use cases
- Key recognized and accepted standards include:
 - IHE:
PIX, PDQ, NAV, XDS, XDS-b, XCA, XD*-Lab, XUA, ATNA, BPPC, DSG, CT
 - HL7:
CDAr2, CCD, v.2.5.1 Lab Results Interoperability Guide
 - OASIS:
SAML, XACML, WS-Security, WS-Trust, WS-Federation
 - Terminologies:
SNOMED-CT, Laboratory LOINC, UCUM, RxNorm

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KP-VA Exchange in NHIN Demonstration: Overview



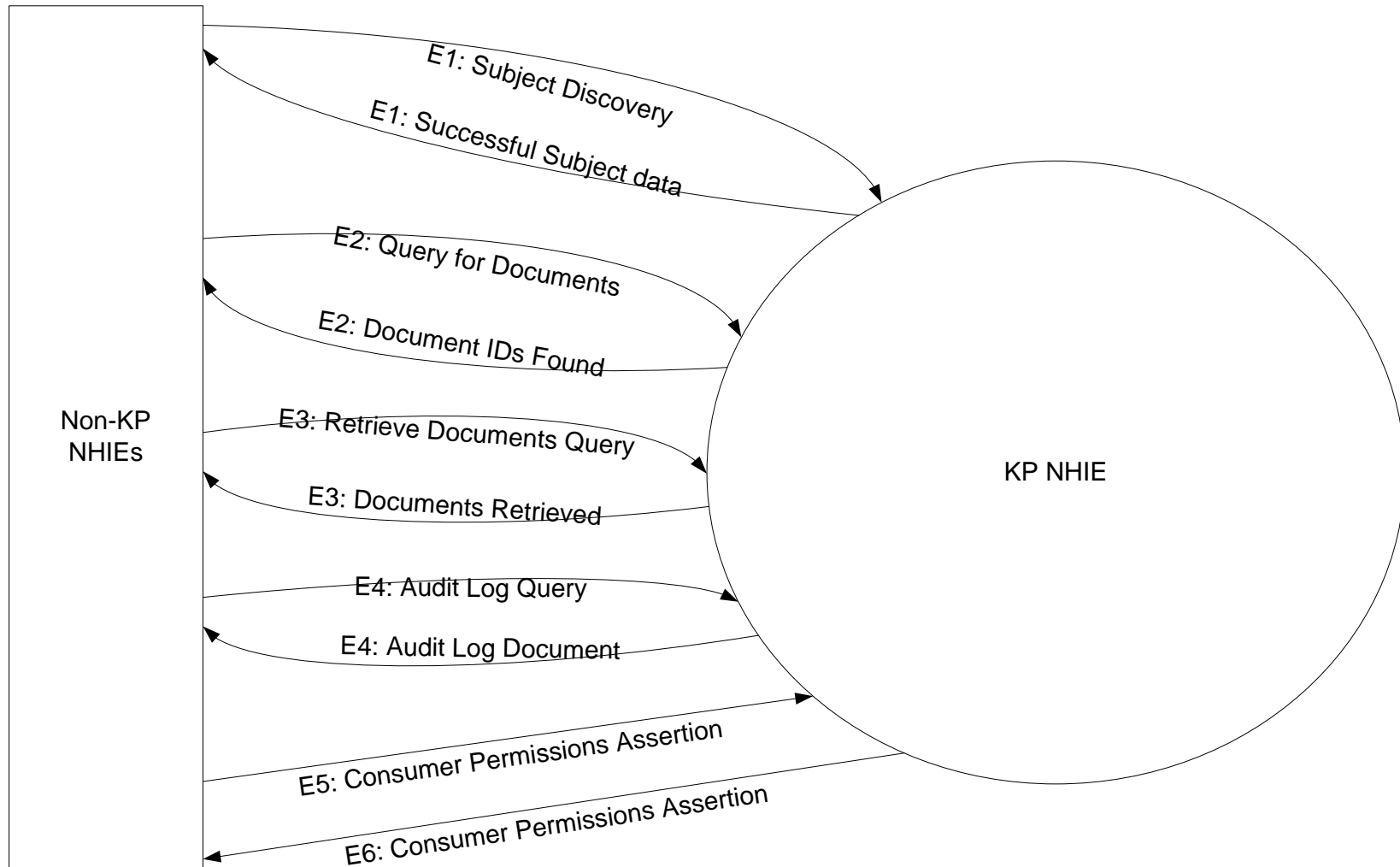
Is

- Proof of concept
- Partnership of KP and VA
- Based on test systems
- Focused on an exchange of pre-built C32 records

Is Not

- Production functionality
- Live build of data
- Based on patient approval
- “Disposable” development

KP-VA Exchange in NHIN: KP Context Diagram



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Clinical Device Interoperability

Example:

Interoperability standards for Ventilators, X-Ray and Pulse Oximetry

- Pause ventilator briefly for x-ray, then auto-restart
- Pulse Ox alarm settings integrated with workflow
- Result:
 - No more forgetting to restart ventilators
 - No more “off” alarms

Health Care Semantic Web Interoperability

Areas of Development:

- Develop/mature semantic web standards
 - SPARQL, RIF, RDF, OWL
 - Implementation guidance
- Semantic search:
 - SNOMED-CT subsumption queries
- Shared ontologies across entity boundaries

Questions?