Zoom Meeting Interface and Basic Logistics

*image above is a publicly available tutorial image obtained from Zoom website

- **VIDEO:**
  - **Panelists/Presenters/Facilitators - Please enable your video using bottom left video button with camera icon.**
  - **Attendees -** If you did not receive an invitation to be a panelist, you are in attendee only mode and **will not have access to enable video**

- **AUDIO:**
  - **Panelists/Presenters/Facilitators -** Adjust your audio settings as needed (choose computer audio, call in, mute, etc.) using **audio button bottom left, microphone icon. Please remain muted unless speaking.**
  - **Attendees -** If you did not receive an invitation to be a panelist, you are in attendee only mode and **will not be able to enable audio**

- **CHAT:** The chat function is open to ***ALL*** participants (bottom, middle right, highlighted in orange in this image). Those in Attendee only mode are encouraged to provide feedback and questions via chat throughout the discussion. Chat will be monitored by the *FAST* team and key themes will be pulled into the discussion.

- **TECHNICAL DIFFICULTIES:** Having trouble hearing the presenters or seeing the shared screen? Put your issue in chat and the Meeting Host will help you.

FAST
FHIR AT SCALE TASKFORCE

FAST Pilots

ONC *FAST* Workshop
September 14, 2020

Session Facilitator

PATRICK MURTA

Chief Interoperability Architect & Fellow

Humana

FAST Chief Architect

FAST Taskforce Antitrust Notice

- The ONC FHIR At Scale Taskforce (*FAST*) (Hereinafter "Taskforce") is committed to full compliance with existing federal and state antitrust laws.
- All members involved in the Taskforce effort, including its advisory groups, will comply with all applicable antitrust laws during the course of their activities. During Taskforce meetings and other associated activities, including all informal or social discussions, each member shall refrain from discussing or exchanging competitively sensitive information with any other member. Such information includes, but may not be limited to:
  - Price, premiums, or reimbursement charged or paid for products or services
  - Allocation of customers, enrollees, sales territories, sales of any products or contracts with providers
  - Any other competitively sensitive information that is proprietary to a member company
- If you have any specific questions or concerns, seek guidance from your own legal counsel.
- Members should not bring confidential information or intellectual property (hereinafter "Intellectual Property") owned by their respective member companies into Taskforce meetings. To the extent such Intellectual Property is shared with the Taskforce that shall not be construed as a waiver of member company's rights to, or ownership in, the Intellectual Property.

Agenda

Session Duration: 1 hour

- **Welcome & Introductions**
- **Session Goals**
- **Overview of the *FAST* Pilots Proposed Approach**
- **Discussion Topics**
  - Interactive Panel
  - Participant Q&A
- **Wrap Up/ Key Takeaways**

FAST Key Panelists

***FAST* Panelists**	
Erik Eaker	Humana, *FAST Pilots Tiger Team Lead*
Yauheni Solad	Yale New Haven Health, *FAST Pilots Tiger Team Lead*
Rose Marie Nsahlai	ONC, *FAST Security Tiger Team Lead*
Julie Maas	ONC, *FAST Identity Tiger Team Lead*
Sandra Vance	AEGIS, *FAST Testing & Certification Tiger Team Lead*

Roles & Logistics: Panelist vs. Attendee Modes

FAST Key Panelists

- Invited to join, actively engage and support the conversation
- Encouraged to communicate verbally (mics on) and to turn on video
- Monitor the attendee chat box for feedback, address questions via chat or promote questions that are significant to the discussion topic or warrant a verbal debate /reaction with the panel group

Industry Expert Reaction Panelist (in panelist mode)

- Invited to join the live interactive discussion with the *FAST* team
- Encouraged to communicate verbally (mics on) and to turn on video
- Provide their industry expertise and feedback
- Discuss or debate the topic with the facilitator and the panelist group
- Raise questions or concerns
- Feedback will inform *FAST* next steps

General Audience and *FAST* Technical Learning Community Members (in attendee mode)

- Encouraged to engage and contribute feedback and questions via the chat box
- Do not have the ability to contribute verbally to the conversation (mics off)
- No ability to be on video

FAST Pilots

Session Description

As the industry is building functional capabilities to support real-time information exchange, in a variety of FHIR workflows (i.e. to address clinical care, clinical data integration, etc.), *FAST* is working on the technical infrastructural aspects that would support these workflows be run at scale.

Demonstrations to test the Da Vinci functional capabilities have been successfully tested over the last several years. However, testing and validating how the *FAST* solutions will impact/improve the deployment of those functional solutions at scale is still a process that needs to be established.

Building on the variety of functional aspects that would benefit from a scalability infrastructure, the *FAST* Pilots team along with an industry expert reaction panel will explore how it is best align the industry needs, with the existent capabilities and the potential of a scaling infrastructure, in a pilot testing environment.

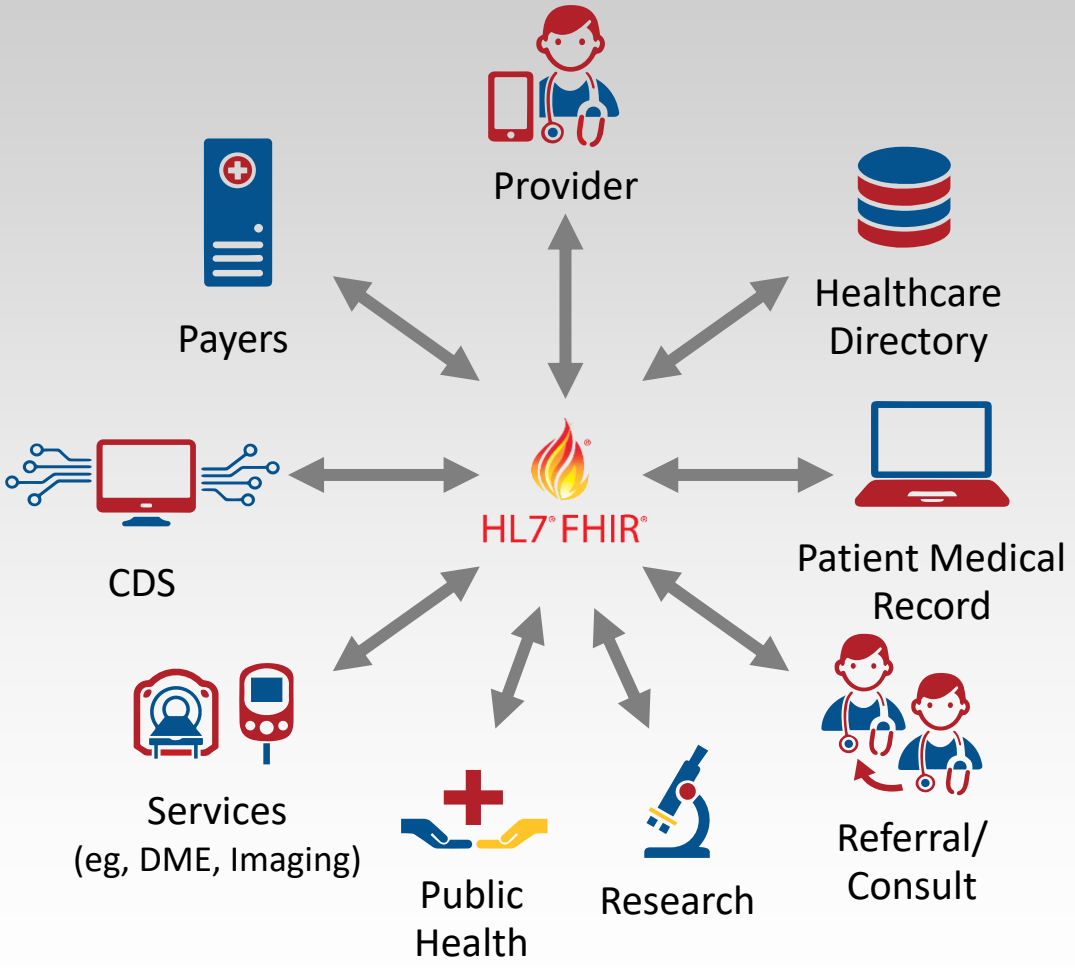
FAST Pilots

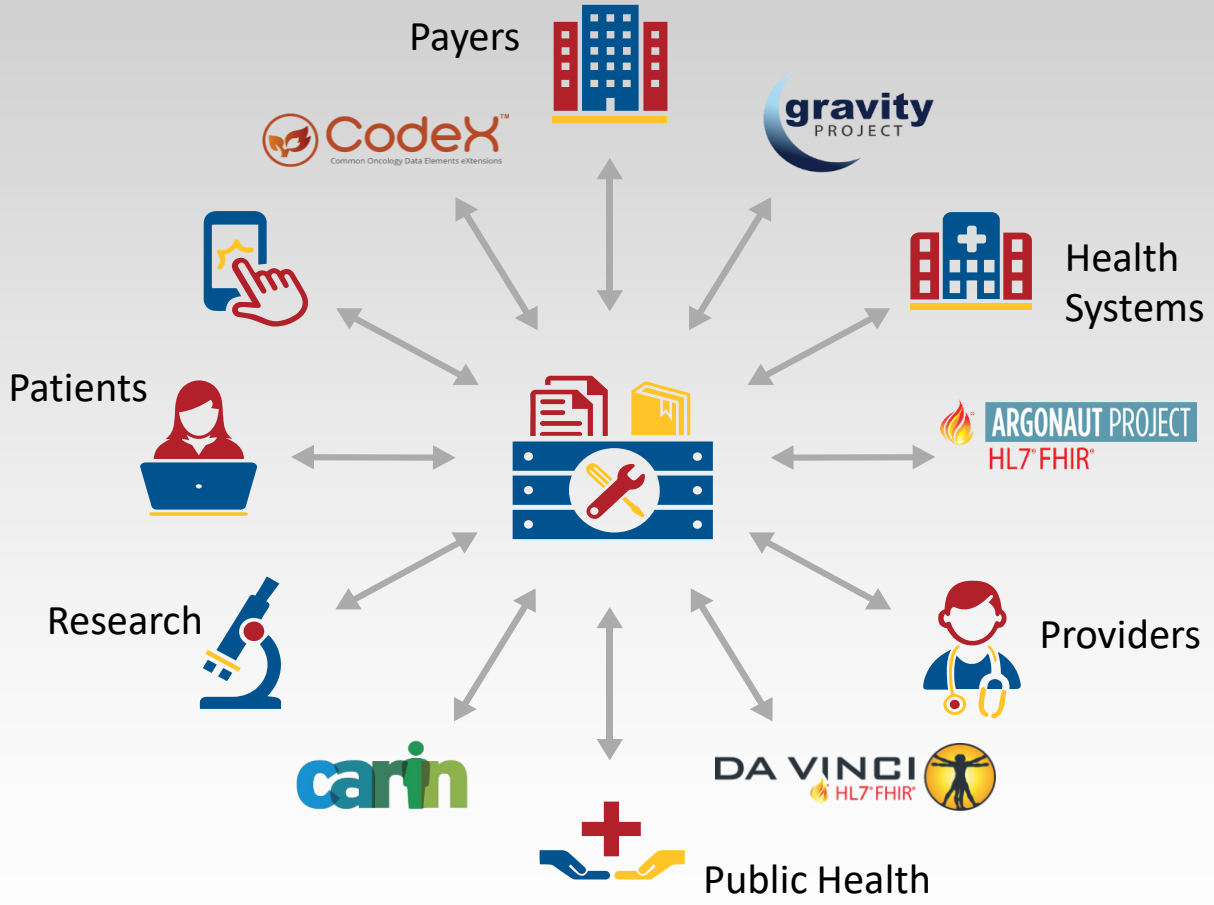
Session Goals

1. Review what are we piloting from a *FAST* perspective
2. Does the model using Da Vinci make sense
3. Explore interest for potential future pilots' partners

FAST Process and Pilots Approach

FHIR and the Health Care Ecosystem





PM

Paving the Way Towards FHIR “At Scale"

HL7® FHIR® ACCELERATOR

- Payers/ Providers — DA VINCI HL7 FHIR
- Provider/ Provider — ARGONAUT PROJECT HL7 FHIR
- Consumers — carin
- Social Determinants of Health — gravity PROJECT
- Cancer Care and Research — CodeX Common Oncology Data Elements eXtensions

OTHER FHIR INITIATIVES

PACIO Project · the sequoia project · IHE

FUNCTIONAL USE CASES

CONTRACTUAL ENFORCEMENT

carequality

NETWORK/CORE SERVICES

commonwell HEALTH ALLIANCE

SHARED

Technical Challenges to FHIR SCALABILITY

- Patient & Provider Identity Management
- Directory Services
- Version Identification
- Scale
- Exchange Process/Metadata
- Testing, Conformance & Certification
- Security

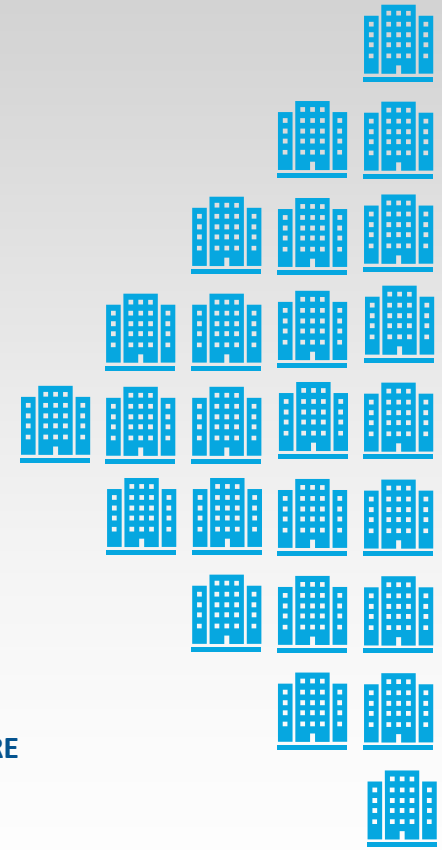
FAST FHIR AT SCALE TASKFORCE

Common Scalability Approaches

CORE SERVICES

INFRASTRUCTURE USE CASES

RAPID INDUSTRY ADOPTION OF FHIR-BASED SOLUTIONS



PM

FAST Solution Process and Where Are We Now

Tiger Teams

FAST Solution Input

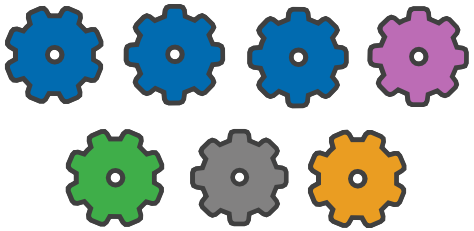
- ✓ Tiger Teams
- ✓ TLC
- ✓ SME

Ecosystem Use Cases ✓

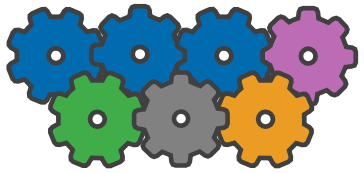
Core Capabilities

Technical Barriers

Proposed (V2) Infrastructure Solutions ✓



Recommended (V3) Infrastructure Solutions



FAST Action Plan

Standards

Process

Regulation

Evaluation, Feedback, and Pilots

Operationalize Solutions

- Ecosystem Use Case
- Directory, Version & Scale
- Exchange Process
- Identity
- Security
- Testing & Certification
- Pilots

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FAST Proposed Solutions

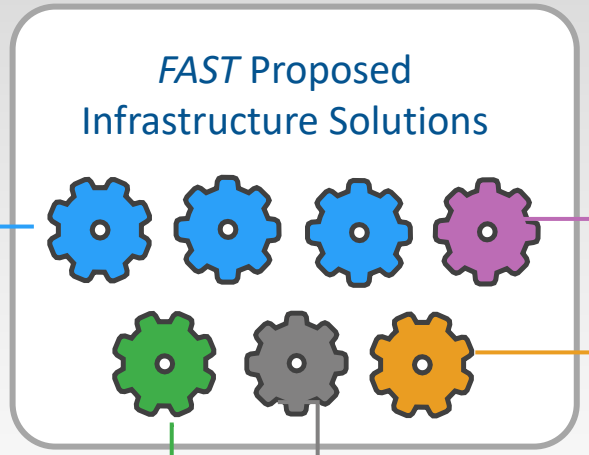
Directory, Version & Scale (3) | Identity (4) | Exchange Process (1) | Testing & Certification (1) | Security (4)

A US Wide Solution for FHIR Endpoint Discovery (Version 2)

A US Wide Methodology for Supporting Multiple Production Versions of FHIR (Version 2)

US Wide Scaling Requirements for FHIR RESTful Exchange Intermediaries (Version 2)

Standards Based Approaches for Individual Identity Management (Version 2)
- Mediated Patient Matching
- Collaborative Patient Matching
- Networked Identity Management
- Distributed Identity Management



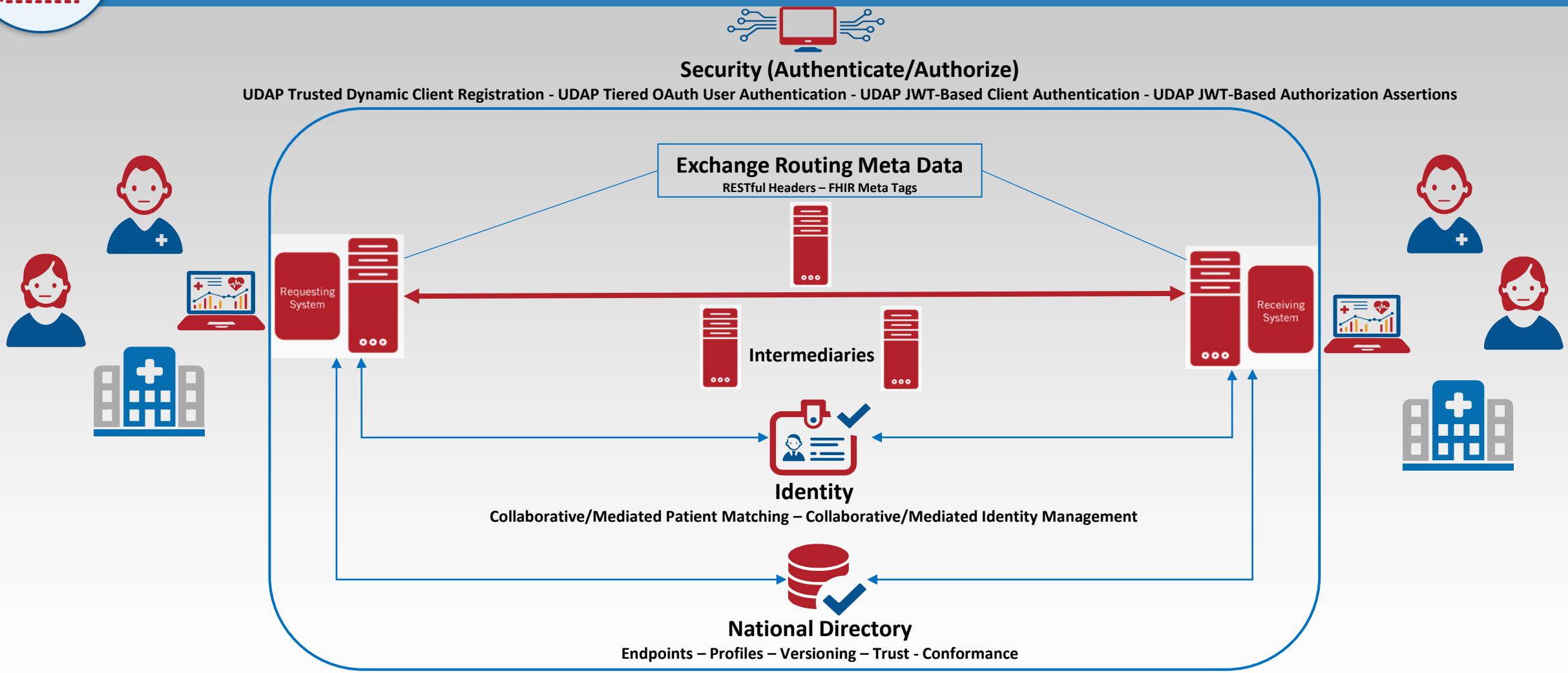
An HL7 FHIR Standard Based Solution for Intermediary-to-Intermediary Exchange and Reliable Routing with Metadata (Version 3 Draft)
- Reliable Routing with Metadata Across Intermediaries

A Scalable FHIR Testing & Certification Platform (Version 2)

US Wide Model(s) for Scalable Security Solutions (Version 3 Draft)
- UDAP Trusted Dynamic Client Registration
- UDAP Tiered OAuth for User Authentication
- UDAP JWT-Based Client Authentication
- UDAP JWT-Based Authorization Assertions

PM

Conceptual Integrated Architecture



CONFORMANCE & CERTIFICATION (Testing & Certification Program)

PILOTS (*FAST* Capability Vetting with Existing HL7 Accelerators)

PM

FAST Pilots Approach:

Use Da Vinci Use Cases to Test *FAST* Core Capabilities

Example CDS/FHIR Transaction Journey – Prior Authorization Support Pilot (Da Vinci)

PCP initiates clinical referral or inpatient request

PCP needs prior auth requirements information from Payer

Payer receives PCP requests
1) Coverage Requirements Discovery
2) Prior Auth Rules/Templates
3) Prior auth decision

1) Coverage Requirements Discover CDS hook interaction provides coverage requirements discovery

2) Documentation Template & Rules provides medical necessity documentation

3) Prior auth FHIR bundle provides basis for auth decision

PCP views patient information

REQUESTING SYSTEM

RECEIVING SYSTEM

1 Formulates CDS/FHIR Request

2 Looks Up the CDS/FHIR Endpoint for Recipient

3 Transaction Information (e.g., Header) Appropriately Configured

4 Receives Transaction, Validates Requestor, Validates Version

5a Performs Patient Matching and Sends Back Not Found If Unable To Do So

5b Authenticates FHIR User's Role

6 Filters Out Data That Does Not Have Consent

7 Generates & Returns CDS/FHIR Response

Requesting System Receives Data

DIRECTORY

EXCHANGE

IDENTITY

VERSIONING

DIRECTORY

EXCHANGE

VERSIONING

CONFORMANCE & CERTIFICATION

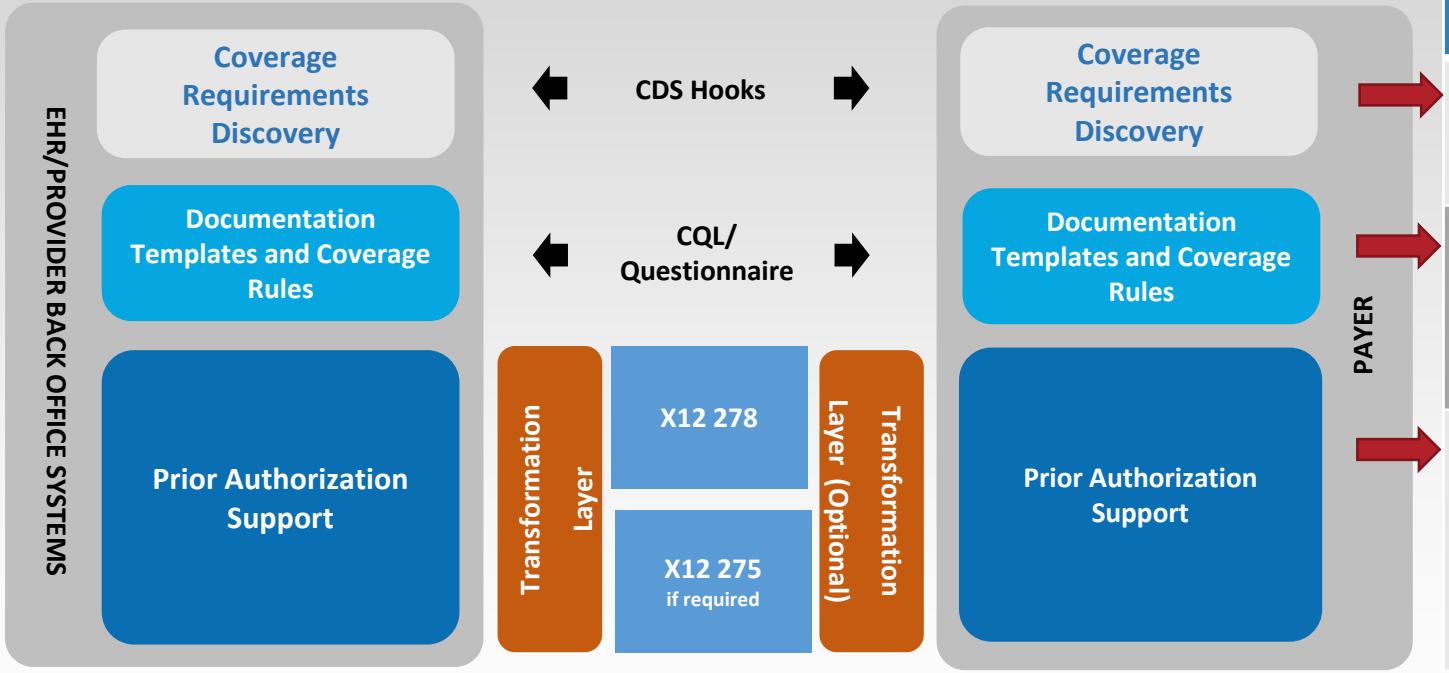
SECURITY

PILOTS

PM

FAST Prior Authorization Support Pilot (Da Vinci)

Da Vinci Prior Authorization Components



FAST Solutions Tested

Directory	Versioning	Exchange	Identity	Scale	Security	Conformance & Certification
✓		✓	✓		✓	
✓	✓		✓		✓	✓
✓	✓	✓	✓	✓	✓	✓

PM

Example CDS/FHIR Transaction Journey – PDex (Da Vinci Payer Data Exchange)

PCP initiates clinical referral or inpatient request

PCP needs prior auth requirements information from Payer

Payer receives PCP requests

Payer PDex Interactions

1) Payer receives CDS request and creates CDS card
2) CDS Card is returned in real time & PDex bundle is available

EHR PDex Interactions

1) [START] PCP's EHR requests CDS Card from payer
2) CDS Card is processed & PDex bundle is made available to EHR for visualization and integration [END]

PCP views patient information

REQUESTING SYSTEM

RECEIVING SYSTEM

1 Formulates CDS/FHIR Request

2 Looks Up the CDS/FHIR Endpoint for Recipient

3 Transaction Information (e.g., Header) Appropriately Configured

4 Receives Transaction, Validates Requestor, Validates Version

5a Performs Patient Matching and Sends Back Not Found If Unable To Do So

5b Authenticates FHIR User's Role

6 Filters Out Data That Does Not Have Consent

7 Generates & Returns CDS/FHIR Response

Requesting System Receives Data

DIRECTORY

EXCHANGE

IDENTITY

VERSIONING

DIRECTORY

EXCHANGE

VERSIONING

CONFORMANCE & CERTIFICATION

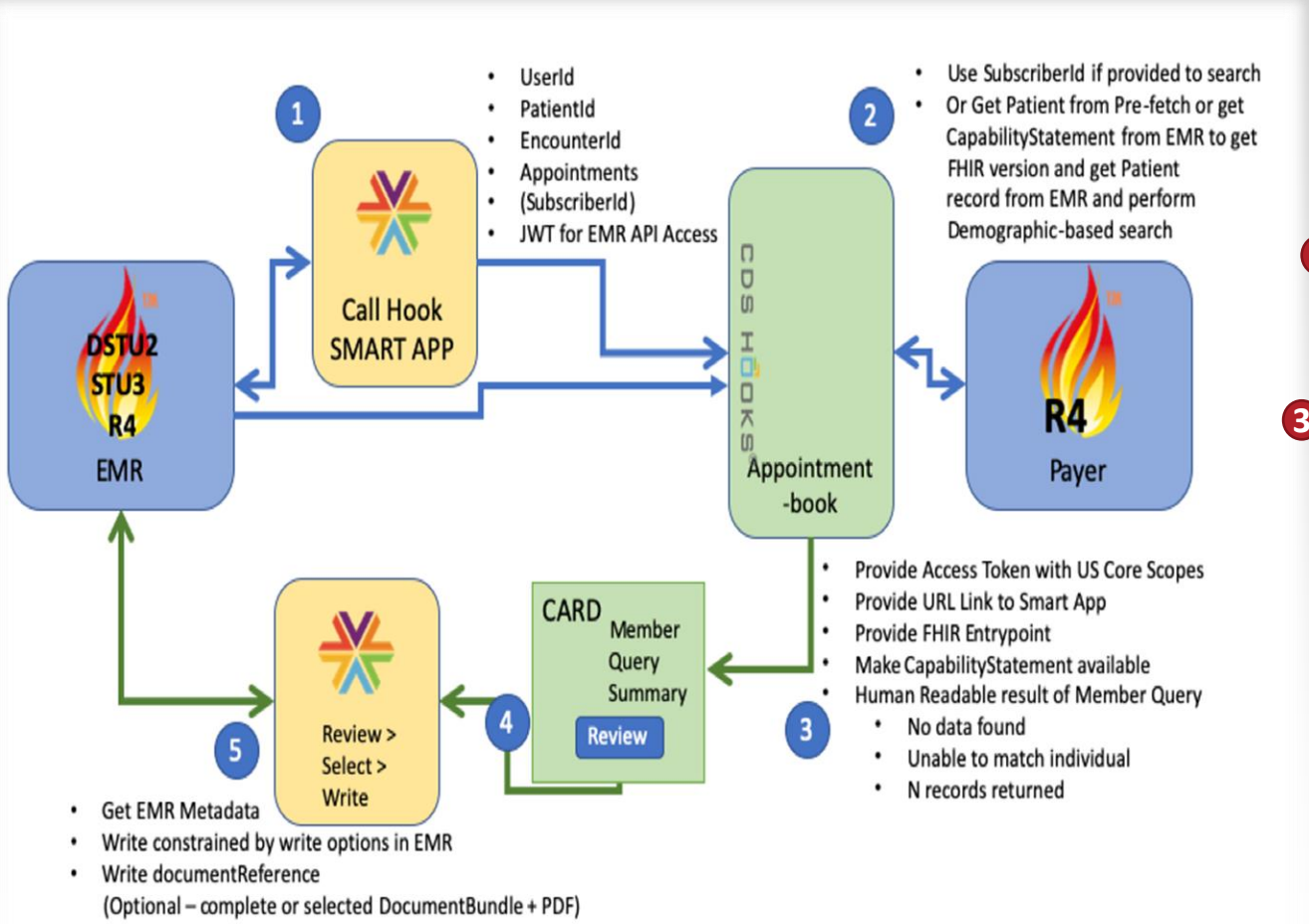
SECURITY

PILOTS

PM

FAST Pilots Support with Da Vinci PDex (Payer Data Exchange)

PDex (Payer Data Exchange)



FAST Solutions Tested

	Directory	Versioning	Exchange	Identity	Scale	Security	Conformance & Certification
1 2 →	✓	✓	✓	✓		✓	✓
3 4 5 →	✓	✓	✓	✓		✓	✓

PM

Example CDS/FHIR Transaction Journey – CDex (Da Vinci Clinical Data Exchange)

PCP initiates clinical referral or inpatient request

PCP needs prior auth requirements information from Payer

Payer receives PCP requests

Payer CDex Interactions

1) [START] Payer requests information from EHR
2) CDex response received and process [END]

EHR CDex Interactions

1) PCP's EHR receives Cdex request and creates response
2) CDex response bundle is returned asynchronously

PCP views patient information

REQUESTING SYSTEM

RECEIVING SYSTEM

1 Formulates CDS/FHIR Request

2 Looks Up the CDS/FHIR Endpoint for Recipient

Transaction Information (e.g., Header) Appropriately Configured

3 Receives Transaction, Validates Requestor, Validates Version

4 Performs Patient Matching and Sends Back Not Found If Unable To Do So

5a Authenticates FHIR User's Role

5b Filters Out Data That Does Not Have Consent

6 Generates & Returns CDS/FHIR Response

DIRECTORY

7 Requesting System Receives Data

EXCHANGE

IDENTITY

VERSIONING

DIRECTORY EXCHANGE VERSIONING

CONFORMANCE & CERTIFICATION

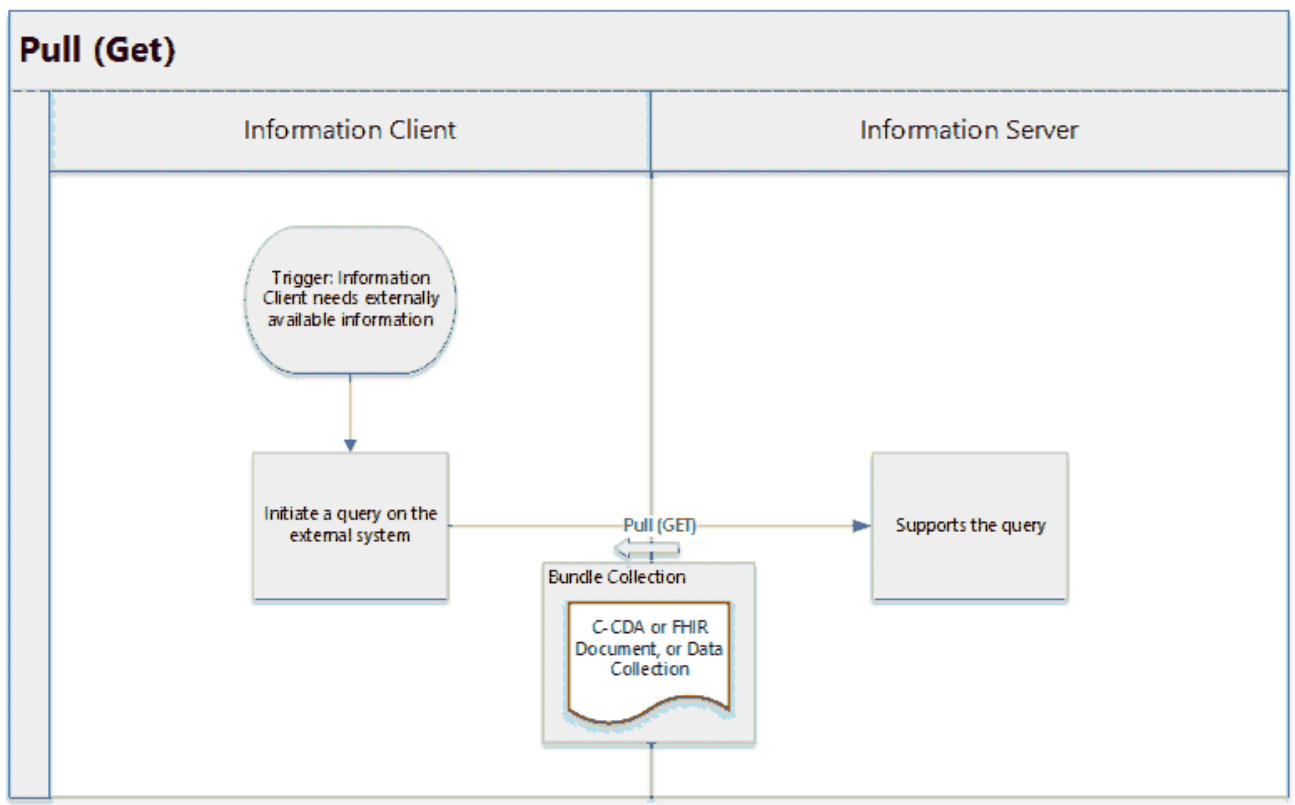
SECURITY

PILOTS

PM

FAST Pilots Support with Da Vinci *CDex (Clinical Data Exchange)* (Da Vinci)

CDex (Clinical Data Exchange)



FAST Solutions Tested

Directory	Versioning	Exchange	Identity	Scale	Security	Conformance & Certification
✓	✓	✓	✓		✓	✓
✓	✓	✓	✓		✓	✓

PM

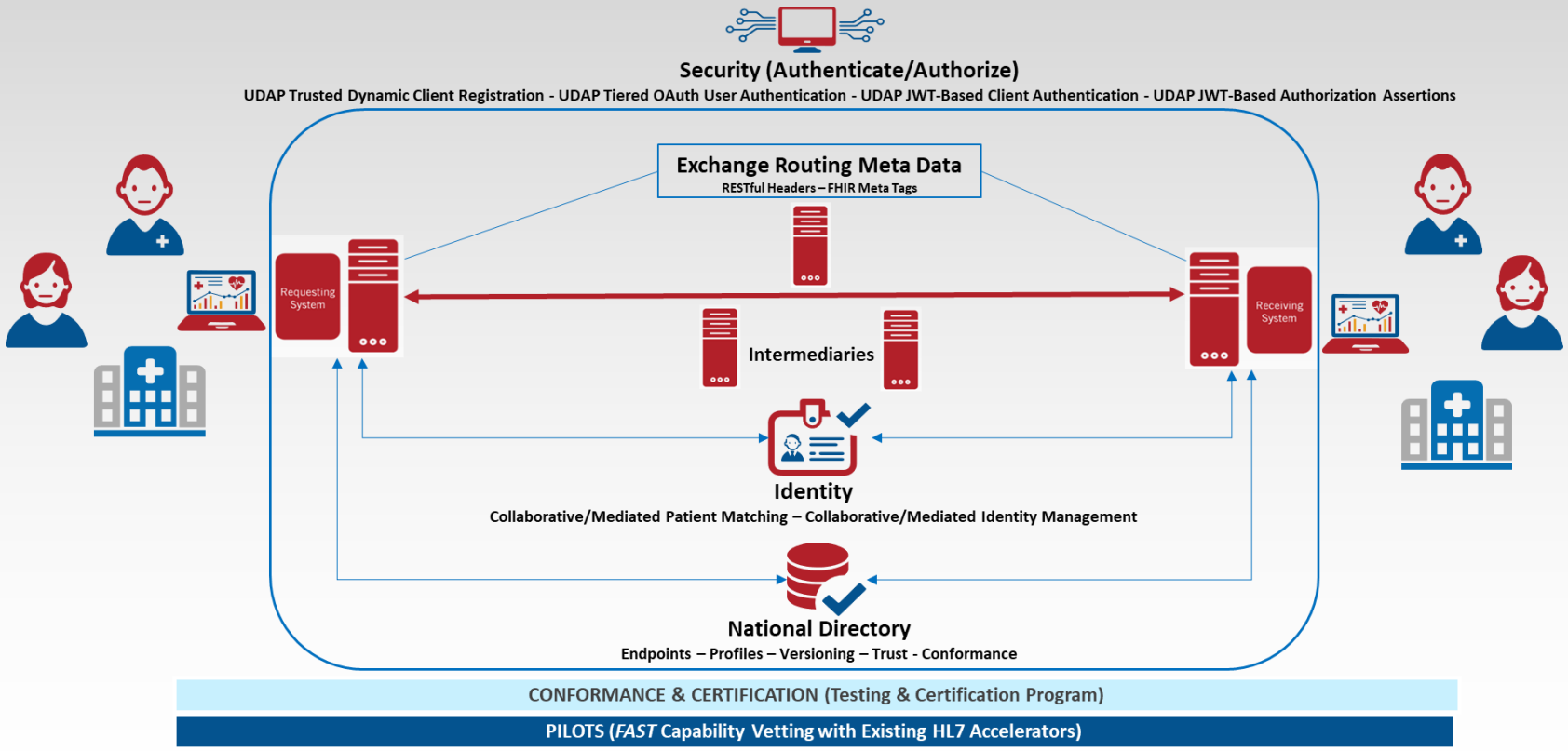
Discussion

Discussion: Session Goal 1

Session Goal 1: Review what we are piloting from a *FAST* perspective (test core capabilities with Da Vinci use cases provided as the workflow)

?

Do you feel that you have a good understanding of what *FAST* is proposing in terms of testing *FAST* core capabilities with Da Vinci use case part of pilots?

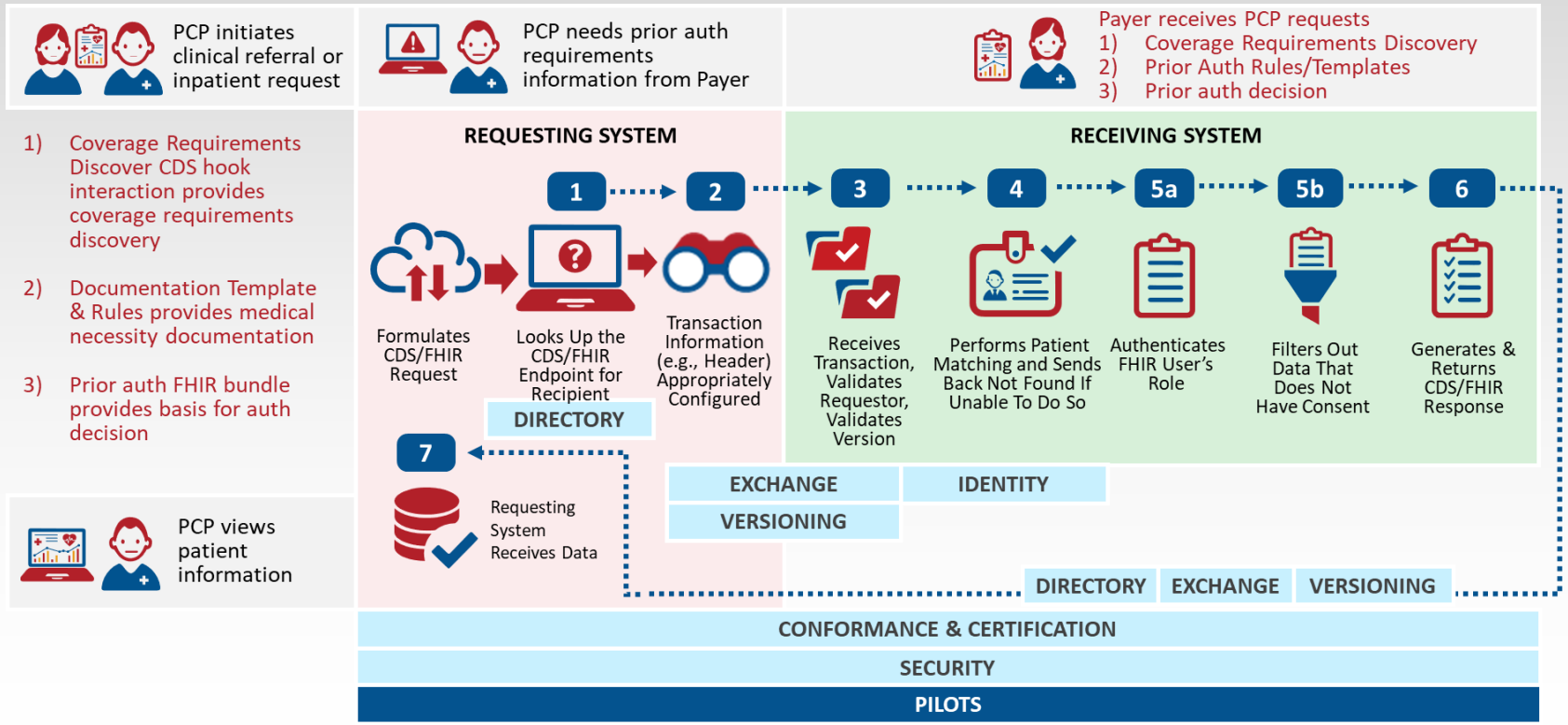


Discussion: Session Goal 1

Session Goal 1: Review what we are piloting from a FAST perspective (test core capabilities with Da Vinci use cases provided as the workflow).

?

Are there any aspects of the pilots work that *FAST* is proposing that need further clarification to support public or organizations understanding?



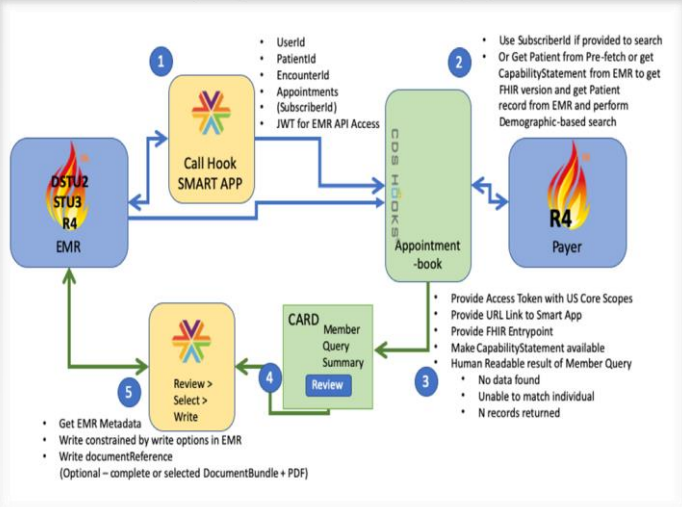
Discussion: Session Goal 2

Session Goal 2: Does the model using Da Vinci make sense?

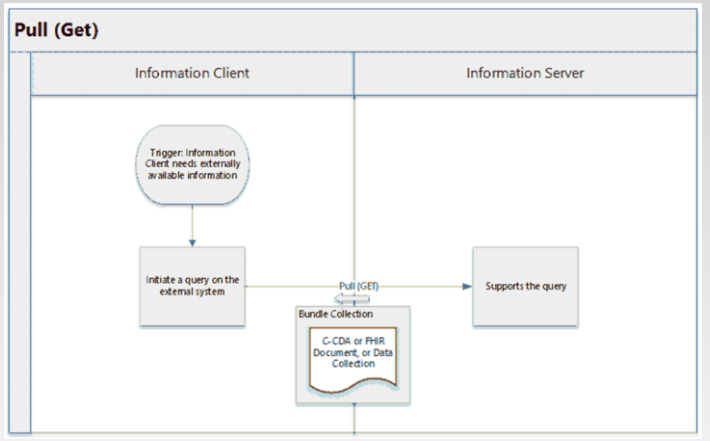
?

Please provide feedback on the proposed technical approach to use Da Vinci use cases to pilot *FAST* core capabilities

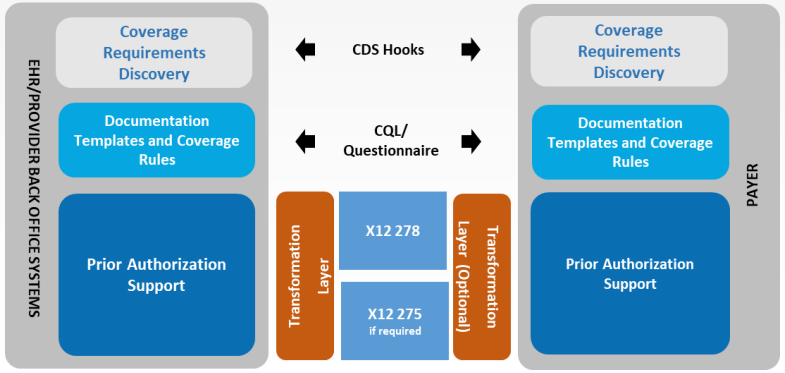
PDex (Payer Data Exchange)



CDex (Clinical Data Exchange)



Da Vinci Prior Authorization Components

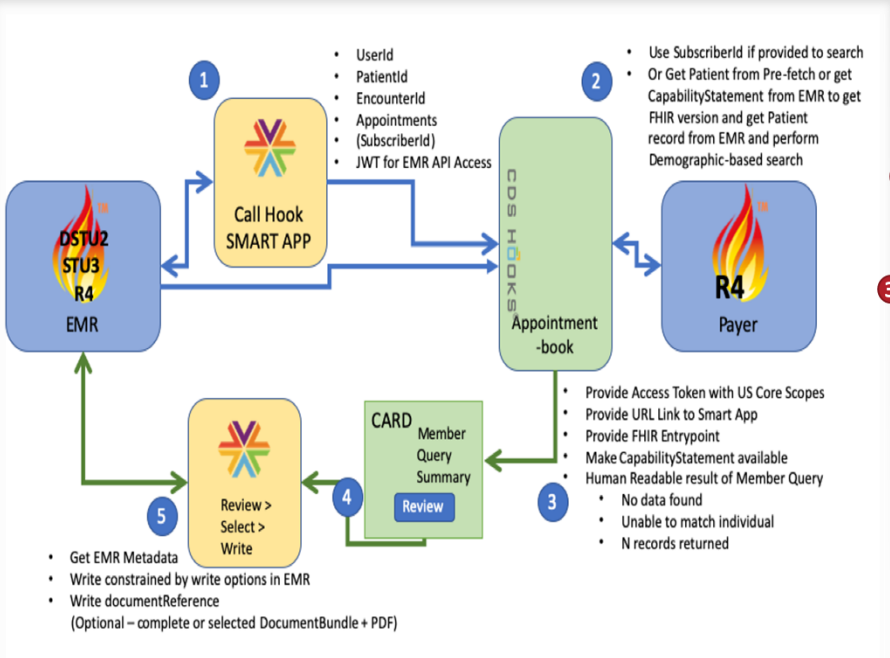


Discussion: Session Goal 2

Session Goal 2: Does the model using Da Vinci make sense?

How do the benefits of using Da Vinci use cases to pilot the *FAST* core capabilities resonate with this group?

PDex (Payer Data Exchange)



FAST Solutions Tested

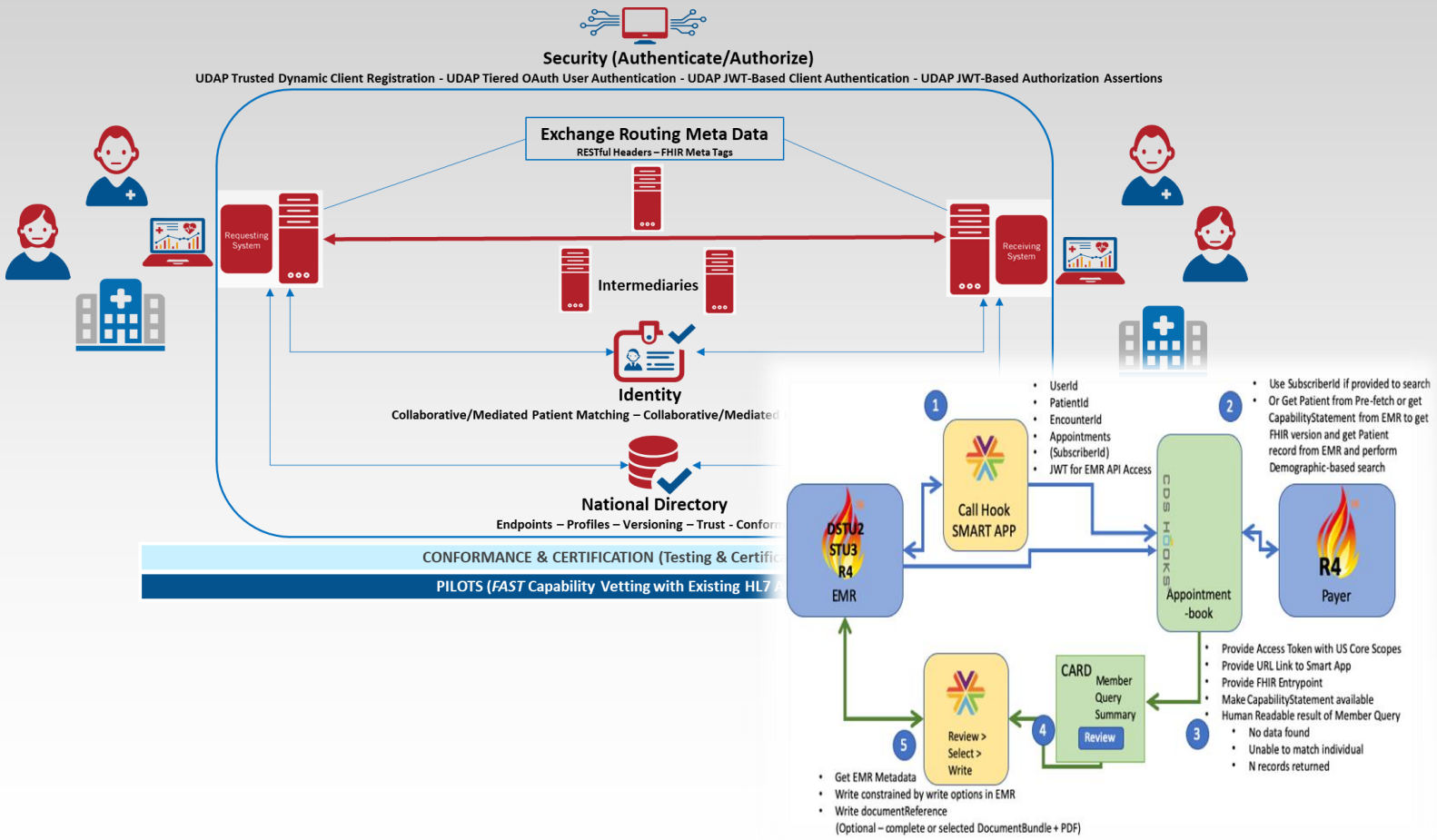
	Directory	Versioning	Exchange	Identity	Scale	Security	Conformance & Certification
1 2	✓	✓	✓	✓		✓	✓
3 4 5	✓	✓	✓	✓		✓	✓

Discussion: Session Goal 2

Session Goal 2: Does the model using Da Vinci make sense?

?

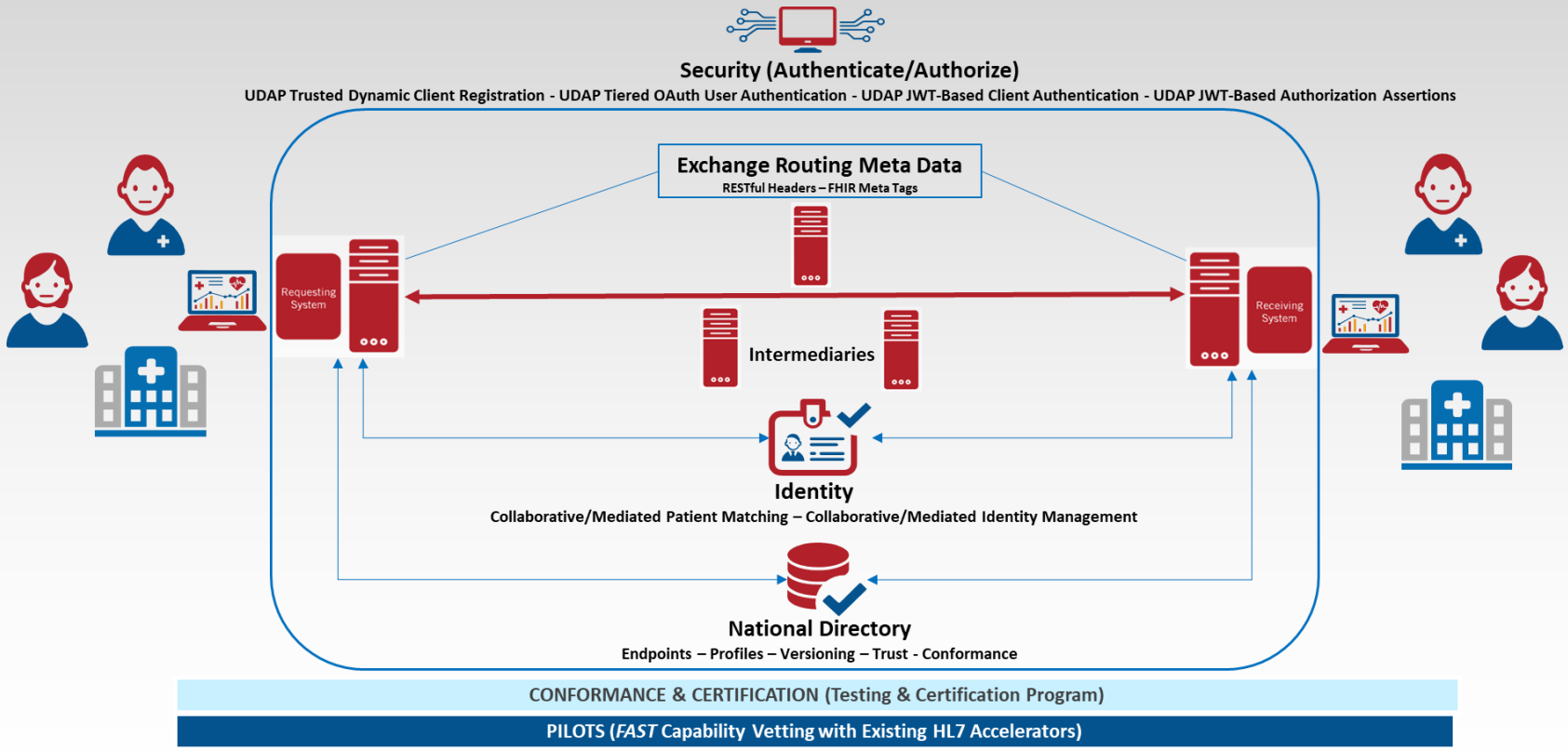
Do you agree that this is a better way to solve a problem, leveraging trust and existing, tested use cases that already exists with the prior Da Vinci work ?



Discussion: Session Goal 3

Session Goal 3: Explore interest for potential future pilots' partners

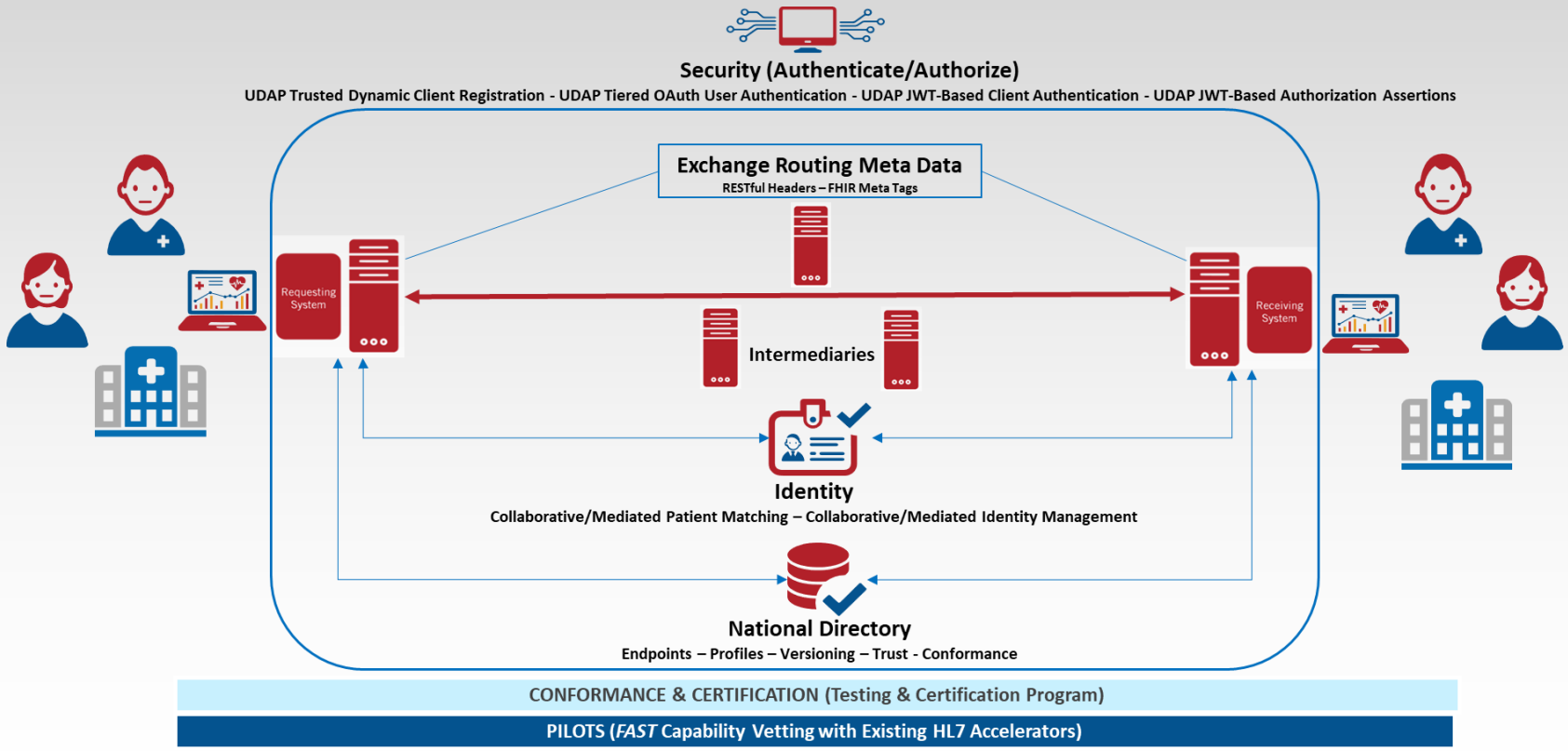
What is the level of interest to potentially support the *FAST* pilots through your organization in the future?



Discussion: Session Goal 3

Session Goal 3: Explore interest for potential future pilots' partners.

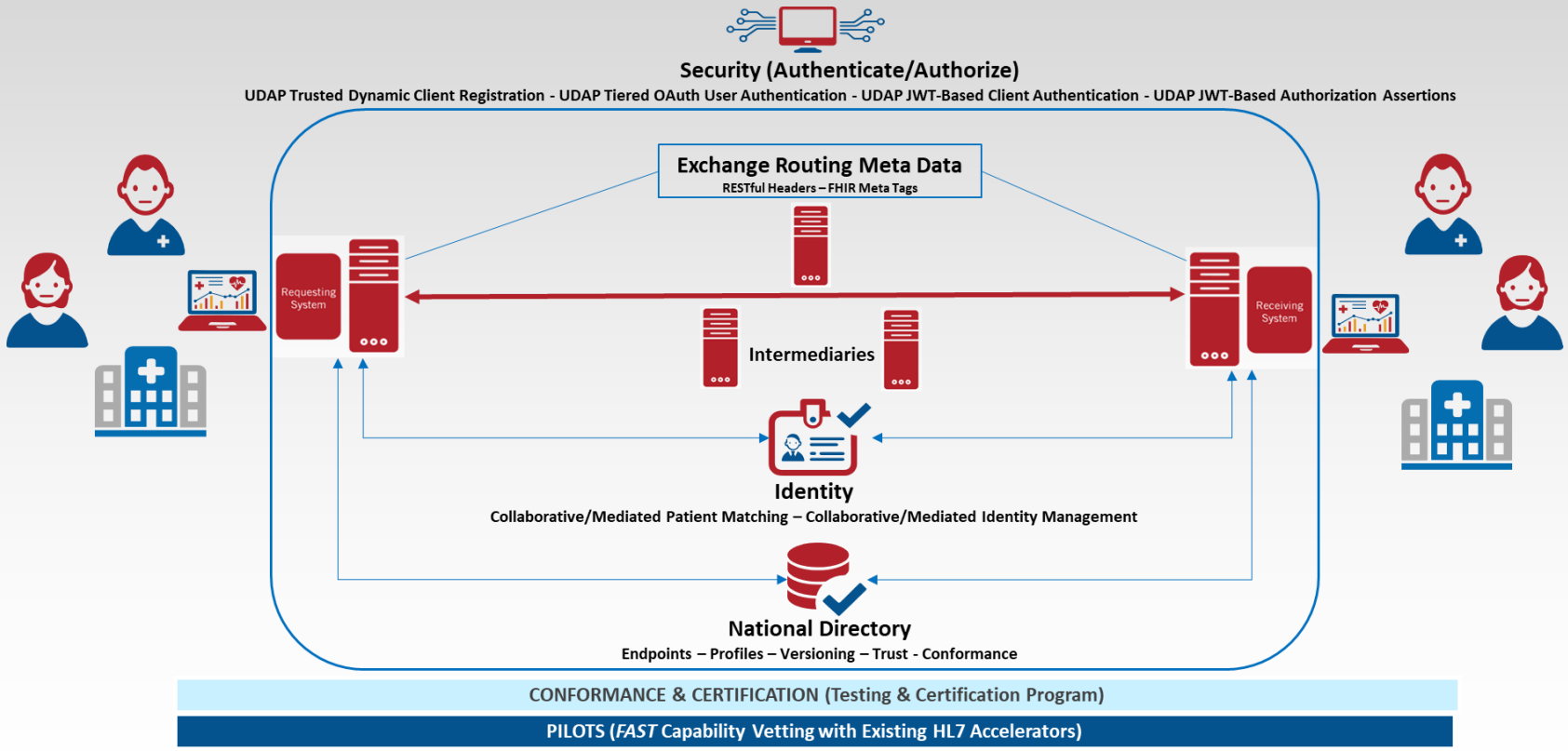
What other information might be needed for organizations like yours to potentially support the *FAST* testing and pilots?



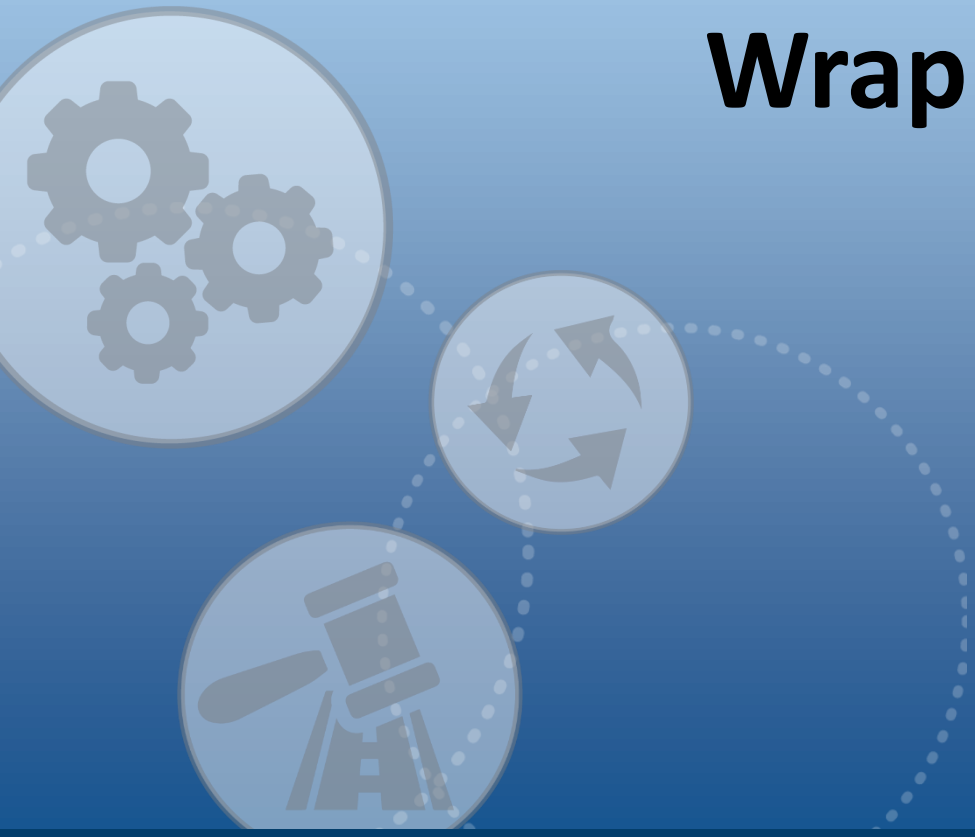
Discussion: Session Goal 3

Session Goal 3: Explore interest for potential future pilots' partners

What level of piloting would you be interested to support?



Wrap Up



FAST Workshop – Full Day Agenda and Resources

- View the *FAST* Workshop Summary and Detailed Agenda
  - Morning and Closing Plenary
  - Breakout Room Sessions Schedule
  - Handouts and Resources
- Explore these *FAST* resources
  - New to *FAST*? Breakout sessions target interactive discussion and references the *FAST* work to date. Please consider exploring any of the following *FAST* artifacts before attending these breakout sessions:
    - The *FAST* 2020 Mid-Year Report
    - The *FAST* 2019 End of Year Report
    - SME Panel Session Pages

CONTINUE THE CONVERSATION!

Join the Technical Learning Community to stay up to date – receive updates about FAST presentations & events, provide additional input and follow our progress.

JOIN THE LINKEDIN GROUP

&

SIGN UP FOR THE TLC

All content is available on the ***FAST* Project Page** *or* **https://tinyurl.com/ONC-FAST**

Thank You

Connect with *FAST* on LinkedIn to stay informed

For more information on the *FAST* Initiative,
visit the *FAST* Project Page or https://tinyurl.com/ONC-FAST

Have any further questions/suggestions?

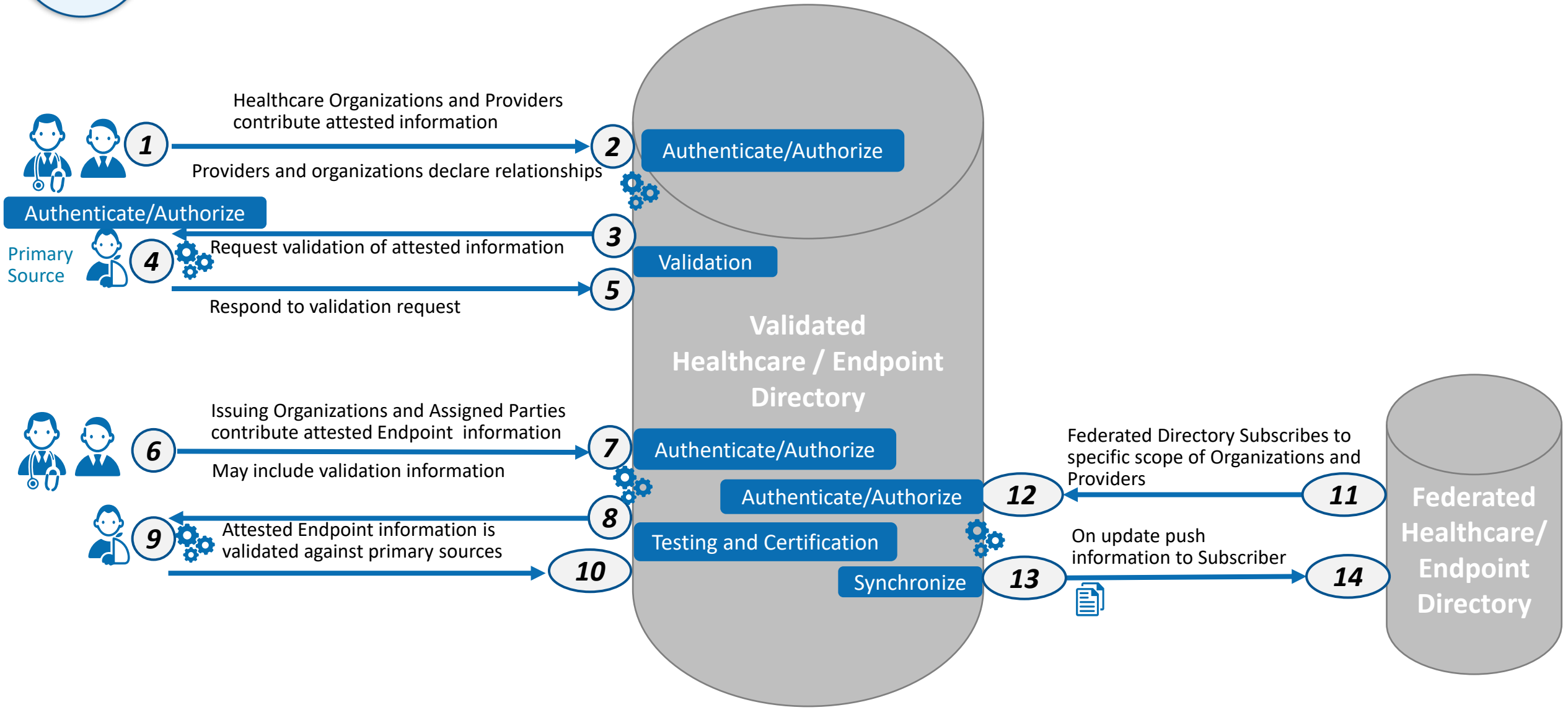
Please contact Stephen Konya at Stephen.Konya@hhs.gov
& Diana Ciricean at Diana.Ciricean@hhs.gov

SK

APPENDIX

FAST Endpoint Directory

FAST Endpoint Directory – Architecture and Workflow



PO

Overview and status

BARRIER

The industry lacks a generally available method to find all FHIR endpoints and their associated capabilities and attributes, as well as a common process for maintaining the information and validating its accuracy

SOLUTION

One national source for validated directory information that is available to any national or local directory workflow environment

IN SCOPE

Individual and entity demographics to determine endpoint relationships, computable endpoint information such as accessibility requirements, metadata for routing, trust framework, implementation guides and certification status

Federated access by HIEs, state directories, EHRs

A FHIR standard implementation guide for use of the directory

OUT OF SCOPE

Manual / portal access, creation of a trust framework, non-FHIR related endpoints, application certification process

STATUS

Incorporating feedback from industry stakeholders

OPEN ITEMS

Define the minimum viable product (MVP) and outline the incremental steps/roadmap to build a directory of endpoints

CURRENT SOLUTION

FAST Endpoint directory proposed solution document

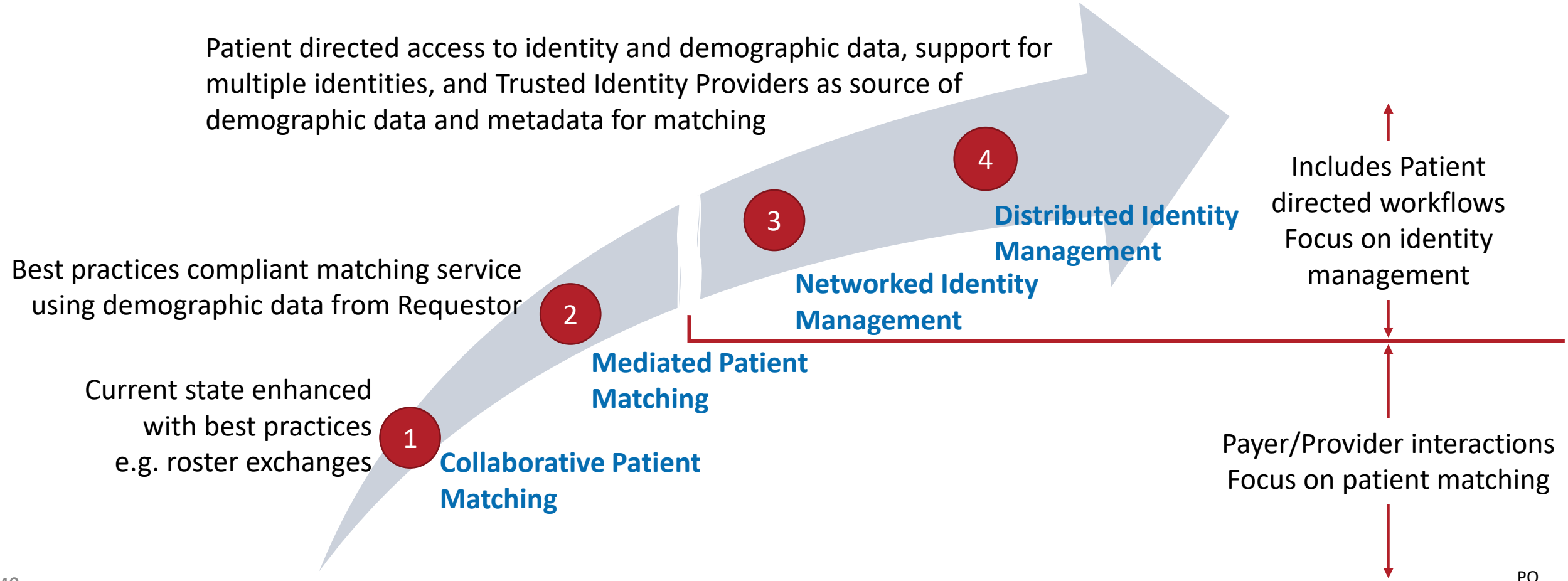
(version 3 in progress)

PO

FAST Identity Management

Solution Options: Low to High Complexity

Multiple options progressing from low to high complexity (technical and process)



PO

Overview and status

BARRIER

The industry currently employs a range of patient matching and identity management processes with inconsistencies and limited scalability as volume and the number of participants increase

SOLUTION

Establish a set of patient matching and identity management patterns and best practices that the industry can adopt to reduce the variations that exist today and provide a bridge to new approaches in the future

IN SCOPE

Patient matching during payer/provider interactions: *Collaborative* and *Mediated Patient Matching*

Patient-directed workflows focusing on identity management: *Networked* and *Distributed Identity Mgmt.*

OUT OF SCOPE

Patient as a requester or responder, contractual arrangements. (Security and directory considerations are addressed by other *FAST* solutions)

STATUS

Incorporating feedback from industry stakeholders

OPEN ITEMS

Pursue provider identity matching. Apply proposed solutions to use cases, capture patient matching recommendations, explore steps to Distributed Identity Management, consider how regulation/policy might address challenges that can't be solved by the market

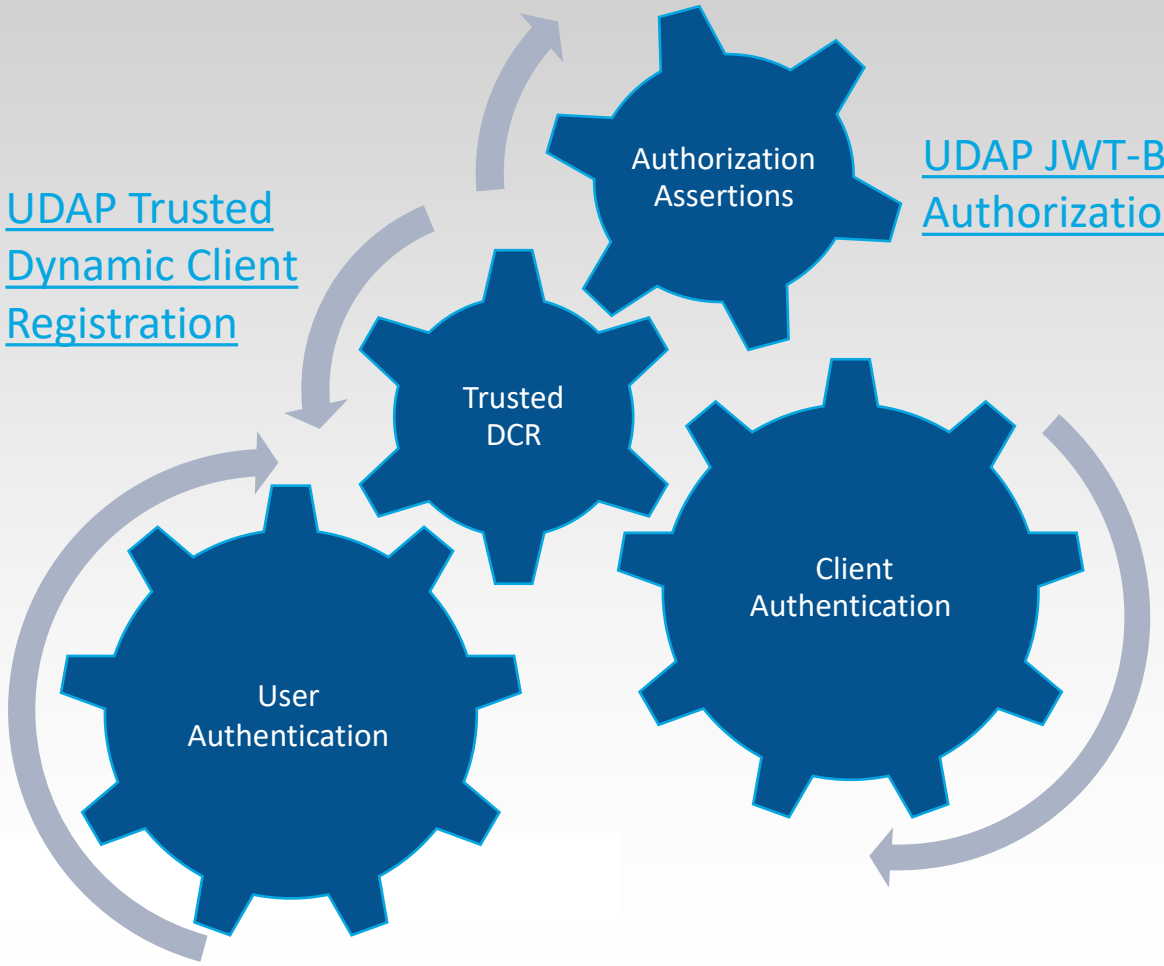
CURRENT SOLUTION

FAST Identity proposed solution document
(version 3 in progress)

PO

FAST Security

Proposed Solution: Trusted Ecosystem



UDAP Trusted Dynamic Client Registration

UDAP JWT-Based Authorization Assertions

UDAP Tiered OAuth

UDAP JWT-Based Client Authentication

PM

Overview and status

BARRIER

Today, we have limitations on our ability to ensure, in a scalable way, that the requestor of information using a FHIR based information exchange is appropriately authenticated and has the authorization to see the data requested. Current registration processes are manual and too time-consuming to support expected growth

SOLUTION

Leverage existing credentials and authorizations and best practice standards to establish common security processes that facilitate automated exchange and reuse existing infrastructure where possible

IN SCOPE

Trusted Dynamic Client Registration using Unified Data Access Profiles (UDAP)

JWT-Based Client Authentication & Authorization

OUT OF SCOPE

Directory for Endpoint Discovery, Trust Policy Governance, Requirements for a specific architecture, Patient/provider or provider/patient

STATUS

Incorporating feedback from industry stakeholders

OPEN ITEMS

Cross-solution overlaps, explore standard authorization metadata requirements, recommendations related to privacy

CURRENT SOLUTION

FAST Security proposed solution document

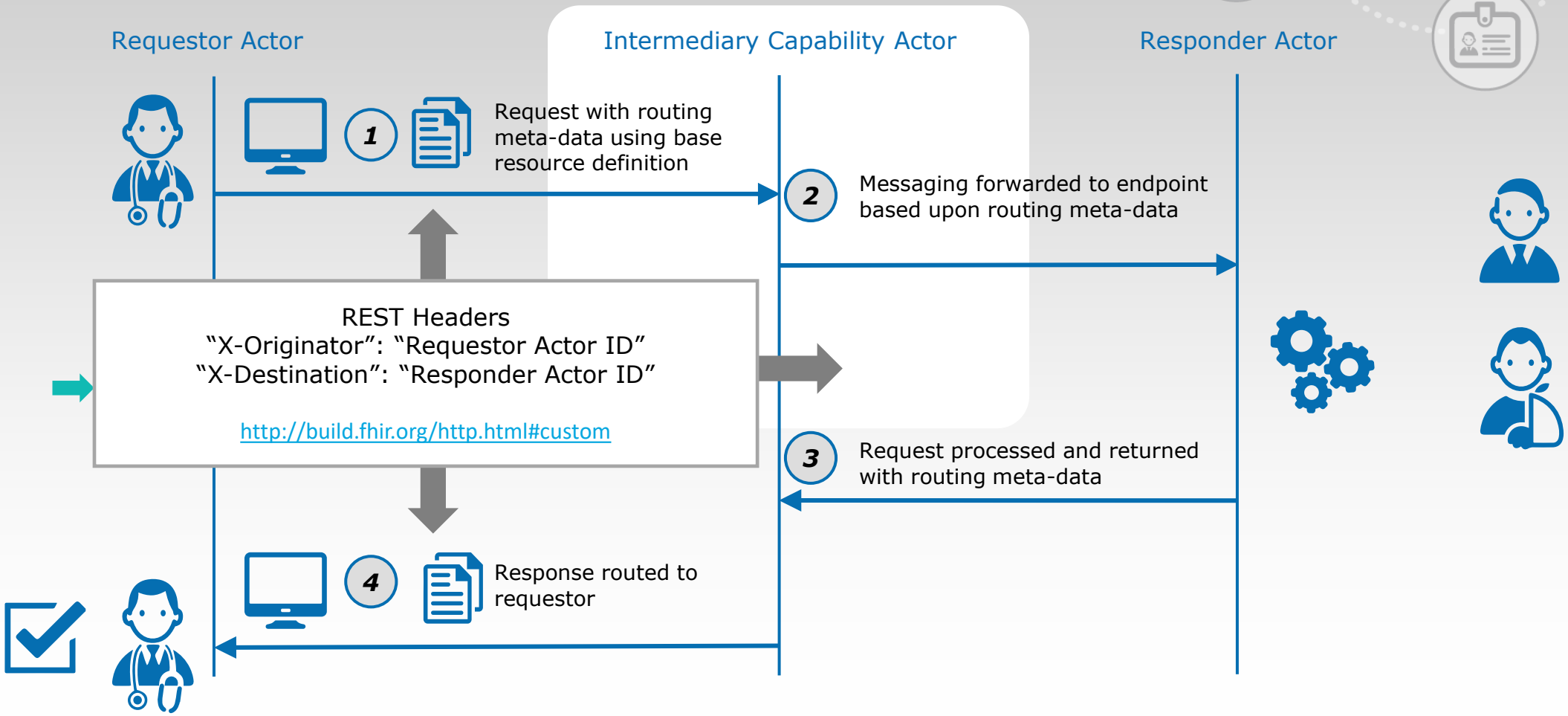
(version 3 in progress)

PM

FAST Exchange

FAST Exchange Solution for Routing Metadata – Process Flow

Planning for a hybrid future while learning from existing models such as CAQH CORE and clearing house patterns



PM

Overview and status

BARRIER

FHIR information exchange is typically performed “point to point” between trusted system endpoints. Because healthcare participants may also wish to leverage intermediaries in FHIR exchanges, a solution for conveying routing metadata is needed

SOLUTION

Employ RESTful header parameters to send originator and destination information for use by exchange intermediaries

IN SCOPE

Exchange using intermediaries in addition to point to point connections

Method for exchanging of a minimum set of metadata as HTTP REST headers, or alternatively within FHIR resource .meta tags

OUT OF SCOPE

Value set defining exchange identifiers

Capturing provenance information from exchange through multiple intermediary “hops”

STATUS

Incorporating feedback from industry stakeholders

OPEN ITEMS

Expand direction on usage of the alternative solution employing FHIR .meta elements

CURRENT SOLUTION

FAST Exchange solution document

(version 3 in progress)

PM

FAST Testing & Certification

Proposed Solution: ONC *FAST* Testing & Certification Program

DEVELOPER

Automated Test Platform

HL7 FHIR Validation Engine

Basic FHIR Conformance

FHIR IG Conformance

+

FAST Criteria Test Scripts

Certification Body

***FAST* Readiness Criteria related to…**

1. End Point Discovery
2. Authentication
3. Authorization
4. Resource Version Identification
5. Reliable Patient Identity Management
6. Data Provenance
7. Reliable Provider Identity Management
8. Event/Message/Topic Subscription/Publication
9. Guaranteed Message Delivery
10. Role/Context Identification
11. Readiness Credential
12. Standard Based Endpoint Access
13. Synchronous Transaction Support
14. Asynchronous Transaction Support
15. Reliable Payor Identification

PM

Overview and status

BARRIER

FHIR testing capabilities and an associated accreditation/certification are needed to support reliable, trustable exchange between healthcare participants. It must be a process in which specification/ requirements that are well established and broadly shared can be absolutely confirmed

SOLUTION

Testing platform supporting the base FHIR Specification and *FAST* Readiness Criteria

ONC FHIR Testing & Certification Program

IN SCOPE

Testing and certification to the base FHIR Specification and *FAST* Readiness Criteria

OUT OF SCOPE

HL7 FHIR Validation Engine, RFP development to select entity to provide services

Validate ease of establishing connections, conformance to non-blocking requirements, conformance to HIPAA patient privacy

STATUS

Incorporating feedback from industry stakeholders

OPEN ITEMS

Capture test assertions in greater detail, clarify aspects, coordinate with related efforts

CURRENT SOLUTION

FAST Testing & Certification solution document

(version 3 in progress)

PM