Zoom Meeting Interface and Basic Logistics

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

- **VIDEO: Please enable your video using bottom left video button with camera icon.** Video sharing capability is accessible for SMEs and Panelists.

- **AUDIO:** Adjust your audio settings as needed (choose computer audio, call in, mute, etc.) using **audio button bottom left, microphone icon**

- **PLEASE MUTE WHEN NOT SPEAKING**: Click on your video box to mute yourself or use the audio button, bottom left

- **CHAT:** Chat function allows communication directly with all participants or privately with a specific person (bottom, middle right, highlighted in orange in this image), then use the drop down to choose visibility of message

FAST SME Session

Proposed Solution: Methodology for Supporting Multiple Production Versions of FHIR

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

- **Welcome**

- **SME Role**

- **Session Goals**

- **Proposed Solution Overview**
  - Proposed solution approach
  - Future & intermediate goals
  - Solution architecture

- **Interactive Discussion**

- **Key Takeaways**

- **Next Steps**

AK

Welcome

FAST Facilitators

Alex Kontur	ONC, FAST Lead
Alexandra (Alix) Goss	Imprado, FAST Directory, Versioning & Scale Tiger Team Co-Lead
Patrick Murta	Humana, FAST Chief Architect
Paul Oates	Cigna, FAST Chief Architect
Robert Dieterle	EnableCare, FAST Directory, Versioning & Scale Tiger Team Co-Lead

SME Participants

Alan Swenson*	Carequality
Arien Malec	Change Healthcare
Brett Marquard*	WaveOne
Ewout Kramer*	Firely
Grahame Grieve*	HL7
Heather Kennedy*	BCBST
Hans Buitendijk*	Cerner
Isaac Vetter*	Epic
James Agnew*	Smile CDR

SME Participants

Jamie Ferguson*	Kaiser Permanente
Jason Vogt	CommonWell
John Kelly	Edifecs
John Moehrke	IHE
Josh Mandel*	Microsoft
Lloyd McKenzie	Gevity, HL7
Maidul Mohammad Islam	Optum
Mark Iantorno	Smile CDR
Chris Moesel*	MITRE
Mark Kramer*	MITRE
Nick George*	Google
Nick Radov*	United
Ricky Bloomfield	Apple
Sarah Andres*	Availity
Tony Benson	BCBS AL
TBD	Amazon AWS

All SME participants with an asterisk by their name are invited, pending confirmation.

AK

FAST Directory, Versions & Scale Team Members

Alix Goss *(Co-Chair)*	Imprado
Robert Dieterle *(Co-Chair)*	EnableCare
Patrick Murta *(Chief Architect)*	Humana
Matt Becker	Epic
Dan Chaput	ONC
Rick Geimer	Lantana
Alex Kontur	ONC
Jeff Brown	MITRE
Greg Meyer	Cerner
Linda Michaelsen	Optum
Brandon Neiswender	CRISP

SME Role

SME Role

- You were selected for your domain expertise and the *FAST* team encourages you to provide input and perspective based upon your experience in your own field

- You will be asked to evaluate proposed solutions and provide your expert opinion and guidance on feasibility, unintended consequences, stronger alternate approaches and best implementation path forward

Session Logistics

- Place yourself on mute when not speaking

- Video is encouraged to enhance engagement with your peers, though not required, especially if you have any bandwidth or other issues that would prevent its use

- Polling questions will be used to capture your feedback and ensure the team is aligned on the recommendations SMEs make throughout the session

- The session is being recorded, and the *FAST* team will have access to the recording as well as the chat log – please note that even "private" chat messages are not private!

- All ideas are good and valid – your questions, comments, and critiques will only enhance our work!
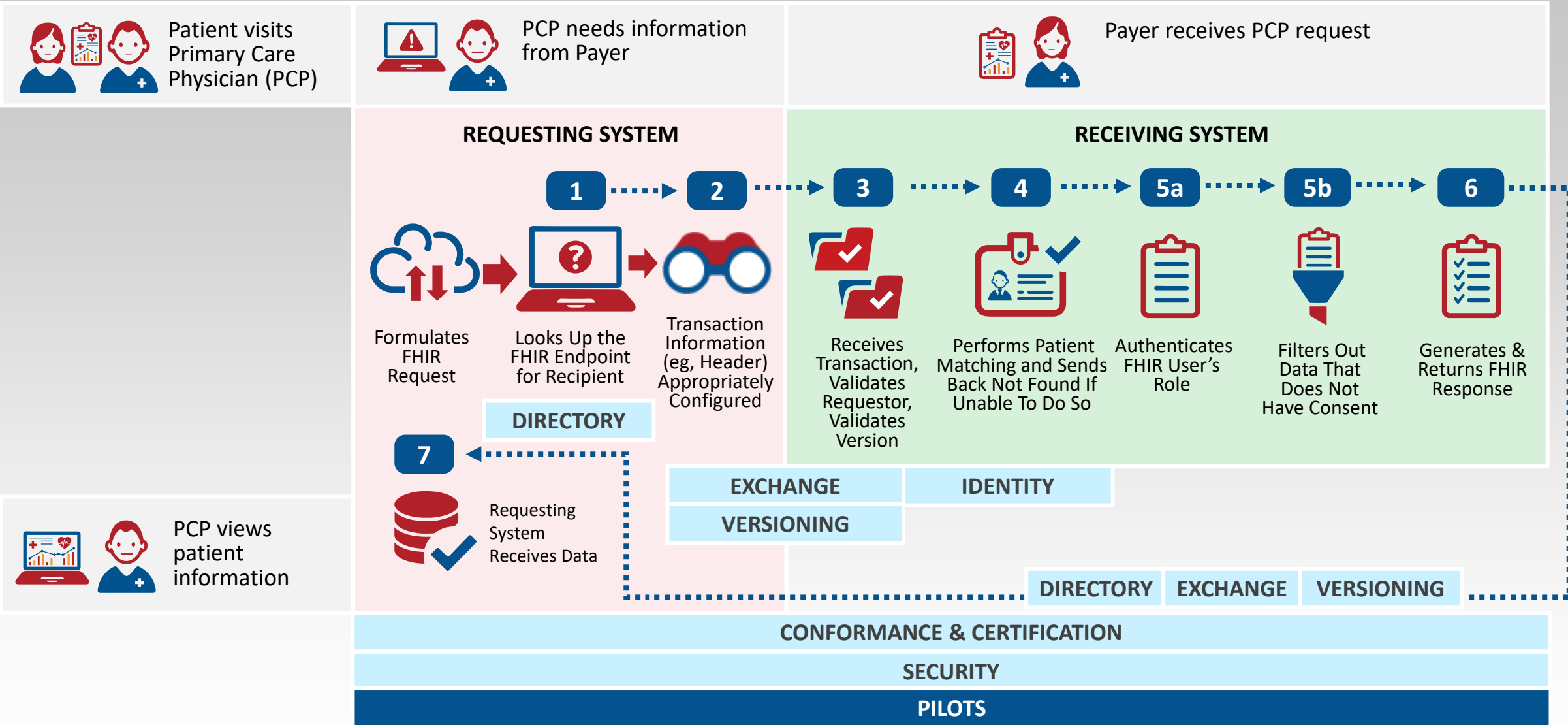
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Session Goals

1. Provide perspective on how the industry needs to deal with identification and management of versions of FHIR and FHIR artifacts (e.g., extensions, value sets, etc.) and implementation guides

2. Consider whether conversion between versions is possible and/or desirable, and at what point in the exchange this would occur

3. Discuss whether *FAST* should prescribe who converts data between different versions of FHIR, and/or define a process for conversion.

Ak

Example FHIR Transaction Journey

Patient visits Primary Care Physician (PCP)

PCP needs information from Payer

Payer receives PCP request

REQUESTING SYSTEM

RECEIVING SYSTEM

1 Formulates FHIR Request

2 Looks Up the FHIR Endpoint for Recipient

Transaction Information (eg, 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 FHIR Response

DIRECTORY

7 Requesting System Receives Data

EXCHANGE   IDENTITY

VERSIONING

DIRECTORY   EXCHANGE   VERSIONING

CONFORMANCE & CERTIFICATION

SECURITY

PILOTS

PCP views patient information

Conceptual Integrated Architecture

Security (Authenticate/Authorize)

UDAP Trusted Dynamic Client Registration - UDAP Tiered OAuth User Authentication - UDAP JWT-Based Client Authentication - UDAP JWT-Based Authorization Assertions

Exchange Routing

RESTful Headers – FHIR Meta Tags

Requesting System

Receiving System

Intermediaries

Identity

Collaborative/Mediated Patient Matching – Collaborative/Mediated Identity Management

National Directory

Endpoints – Profiles – Versioning – Trust - Conformance
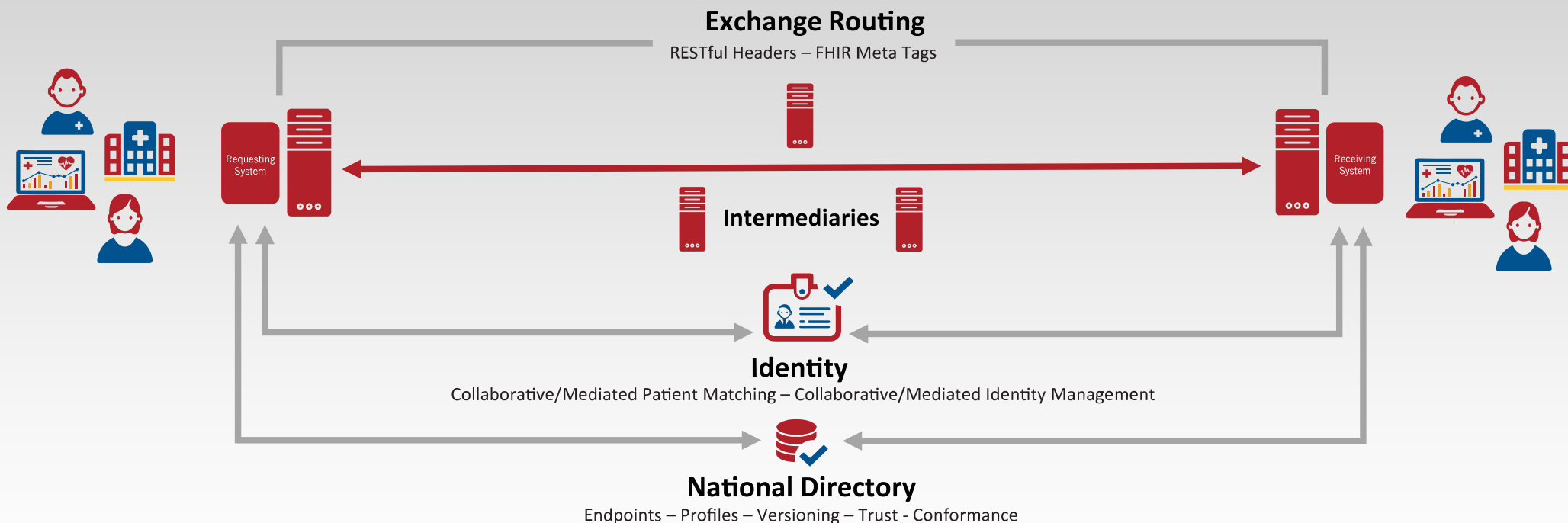
CONFORMANCE & CERTIFICATION (Testing & Certification Program)

PILOTS (FAST Capability Vetting with Existing HL7 Accelerators)

PM
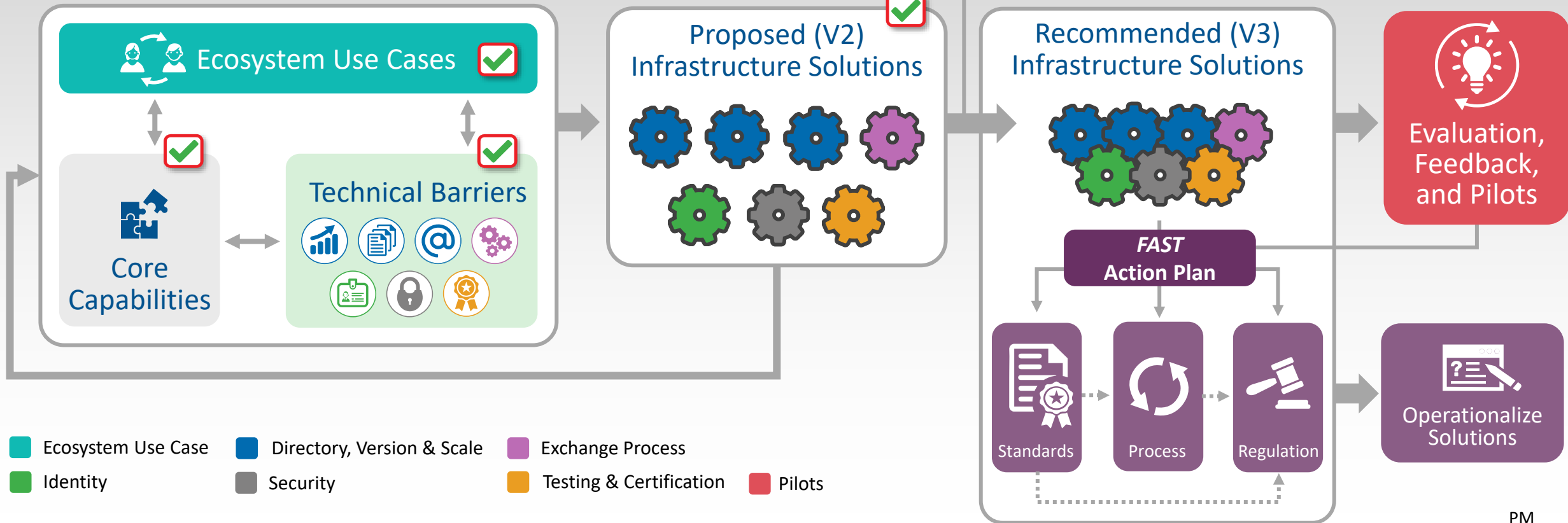
Proposed Solution:

Methodology for Supporting Multiple Production Versions of FHIR

Versioning – Current State

Interoperability initiatives and federal policy objectives are advancing FHIR standard and IGs to address gaps and support innovation.

PAYERS
PROVIDERS
PATIENTS
HEALTH SYSTEMS
RESEARCH
PUBLIC HEALTH
HIE
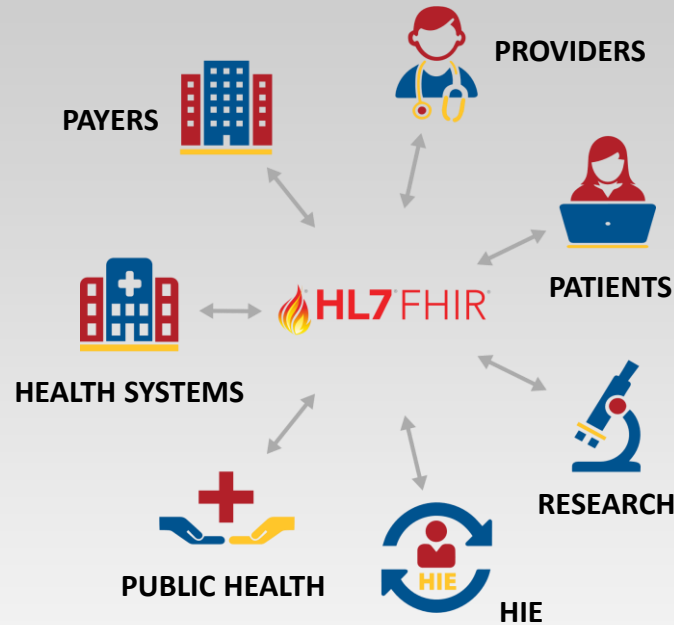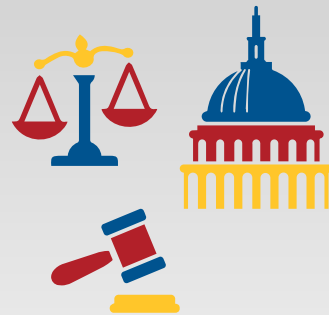
ENDPOINTS

- Multiple incompatible versions of FHIR are in production (DSTU2, STU3, R4)
- Most FHIR endpoints only support one version of FHIR
- CapabilityStatement resources are often:
    - used inappropriately or not at all
    - inaccurate reflections of endpoint capability (despite FHIR specification requirements)

- Resources, extensions, profiles, value sets, and implementation guides are version specific
- A single exchange of FHIR content (e.g., a FHIR bundle) is limited to one version of FHIR
- Version(s) are not fully backward or forward compatible and breaking changes may exist between versions, except where resources are normative

- Limited ability to convert data between versions without loss of fidelity for most clinical resources
- CapabilityStatement resource currently has a scope that is in flux (especially as regards to security/authentication)

AG

FAST Versioning – Technical Barriers

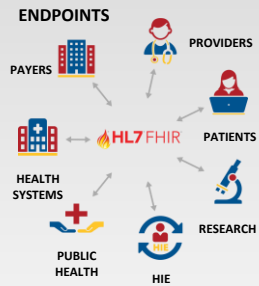|	
MULTIPLE VERSIONS IN PRODUCTION	Trading partners may need to support multiple versions of FHIR with no guarantee of backward compatibility across versions except for those resources which are normative. While transforms exist for some resources to convert from one version to another, their quality and completeness vary from resource to resource and do not exist for IGs.
CONTINUED EVOLUTION OF THE STANDARD	Supporting new functionality creates timing and adoption challenges (e.g., lag time to support new resources, operations, etc.). Since vendors may support different functions at different times, the capability statement becomes an essential part of determining current endpoint support for specific functionality.
VARIABLE ADOPTION OF THE STANDARD	Vendors adopt support for the ability to read or read/write specific resources. Maintaining capability statements and periodically pulling/processing statements are challenges.
USING DIFFERENT FHIR VERSIONS FOR THE RECORD OF A SINGLE PATIENT	Depending on architectural models deployed for receiving and storing data, multiple FHIR versions may seriously impact decision support or negatively impact the ability to communicate the complete record to another entity.
PROFILES THAT ARE VERSION SPECIFIC	Profiles and implementation guides are version specific. This creates complexities when supporting multiple versions of FHIR and migrating from one version to the next, leading to substantial implementation issues.
COMPLEXITIES CREATED BY EXTENSIONS	A new version of FHIR introduces new content that impacts the definitions of the extensions or how the extensions are used in Implementation Guides/Resources.
CAPABILITY STATEMENT MATURITY	While the CapabilityStatement resource is normative, there a significant number of flagged elements that are marked as "for trial use". Until the relevant flags are also normative or removed, the CapabiltityStatement resource may also change in significant ways from FHIR release to release.

AG

FAST Versioning – Future State

Current process for version adoption for transactions and APIs mandated by regulation continues to be supported

Sunset old floor version 2 years after newer version is required to be supported

Willing trading partners (without any financial incentives or penalties), may choose to adopt newer versions as long as they continue to support the floor

Existing FHIR services shall be supported for at least 2 years after adoption of a new version or until there is no production activity at the endpoint for 3 months.

ENDPOINTS
PROVIDERS
PAYERS
HL7 FHIR
PATIENTS
HEALTH SYSTEMS
RESEARCH
PUBLIC HEALTH
HIE

HL7 FHIR

- Most commonly used HL7 FHIR resources are "normative"
- FHIR versions solutions focus on US Realm with considerations for international solutions to address health care for US citizens globally
- Variation between releases is focused on new functionality and edge cases

- Any new version shall be backward compatible for all normative content
- All FHIR artifacts shall provide version information as part of any exchange
- Any incompatible changes (non-normative) between versions shall be fully defined and where possible, HL7 tooling shall be created to manage translation between versions

BD

FAST Versioning – Intermediate Solution Goals

STANDARD

Reconcile issues with incompatible changes between versions (e.g., R4 and R4B releases related to MedicationKnowledge)

CAPABILITY STATEMENTS

All endpoints shall support capability statement query and the $versions operation that returns the supported version(s)

Relevant flags in the capability statement are normative or removed

TOOLING

Incompatible changes between versions shall have improved HL7 tooling, where possible, to manage translation between versions

HL7 maintained transforms exist and are supported by FHIR endpoints for all USCDI resources and profiles to convert to/from versions of FHIR cited in regulation, or via sub-regulatory process

DIRECTORY

All endpoint or validated health care directory entries shall include information regarding the version(s) of FHIR supported (e.g., expanded support for the endpoint resource as part of the new directory exchange IG)

Support for endpoint version and validation of support is in-scope for the directory and testing/validation Tiger Teams and will be part of those final solutions

EDUCATION

Support industry education programs to reinforce the understanding and use of version adoption and version related issues.

FAST Versioning
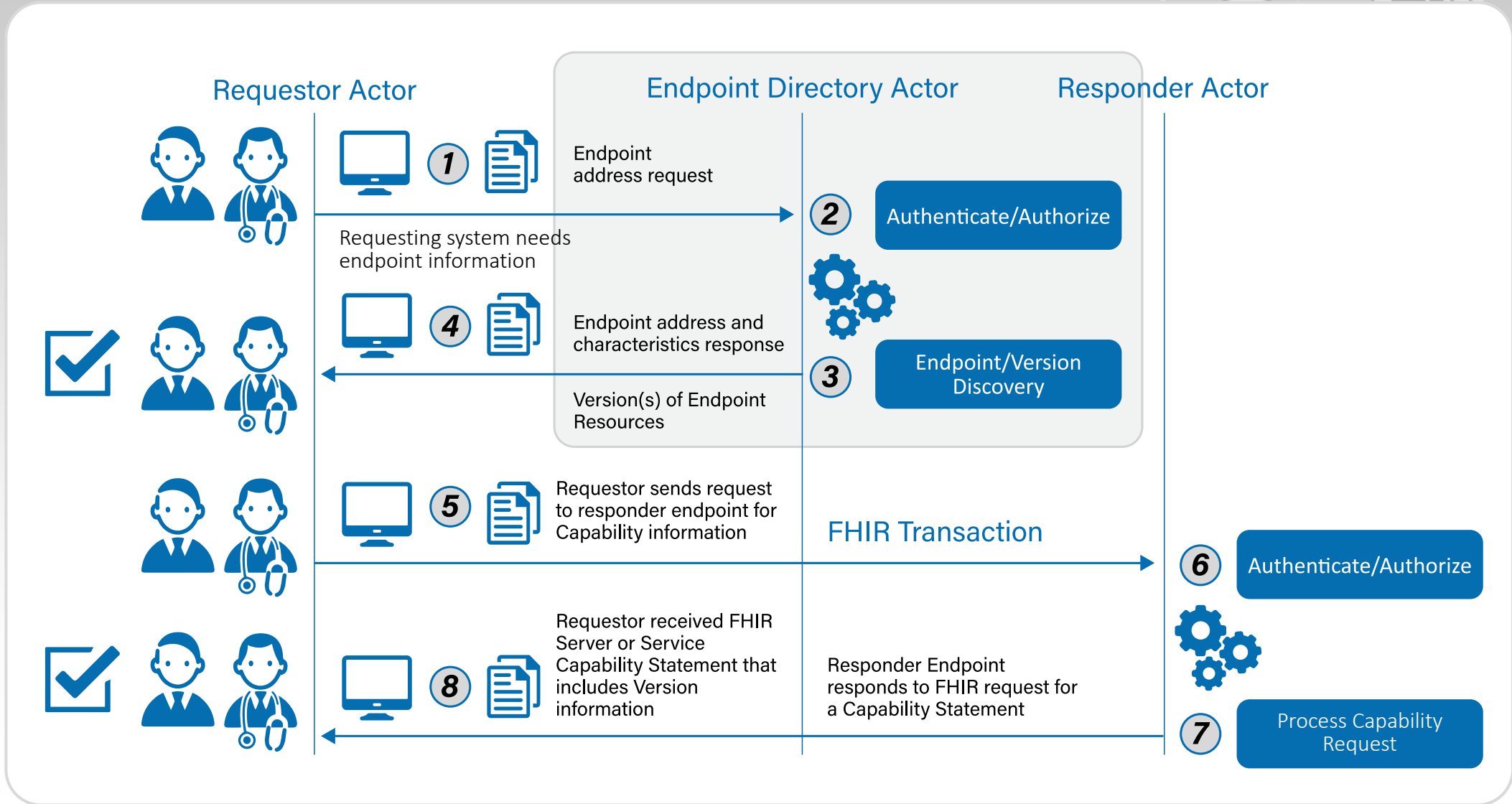
Interactive Discussion

Polling Question: Proposed Future State

Do you agree with the proposed versioning future state as described?

Please enter the reason(s) for your response and any proposed alternatives in the chat box to support group discussion.

- Yes

- No

- Somewhat

AG

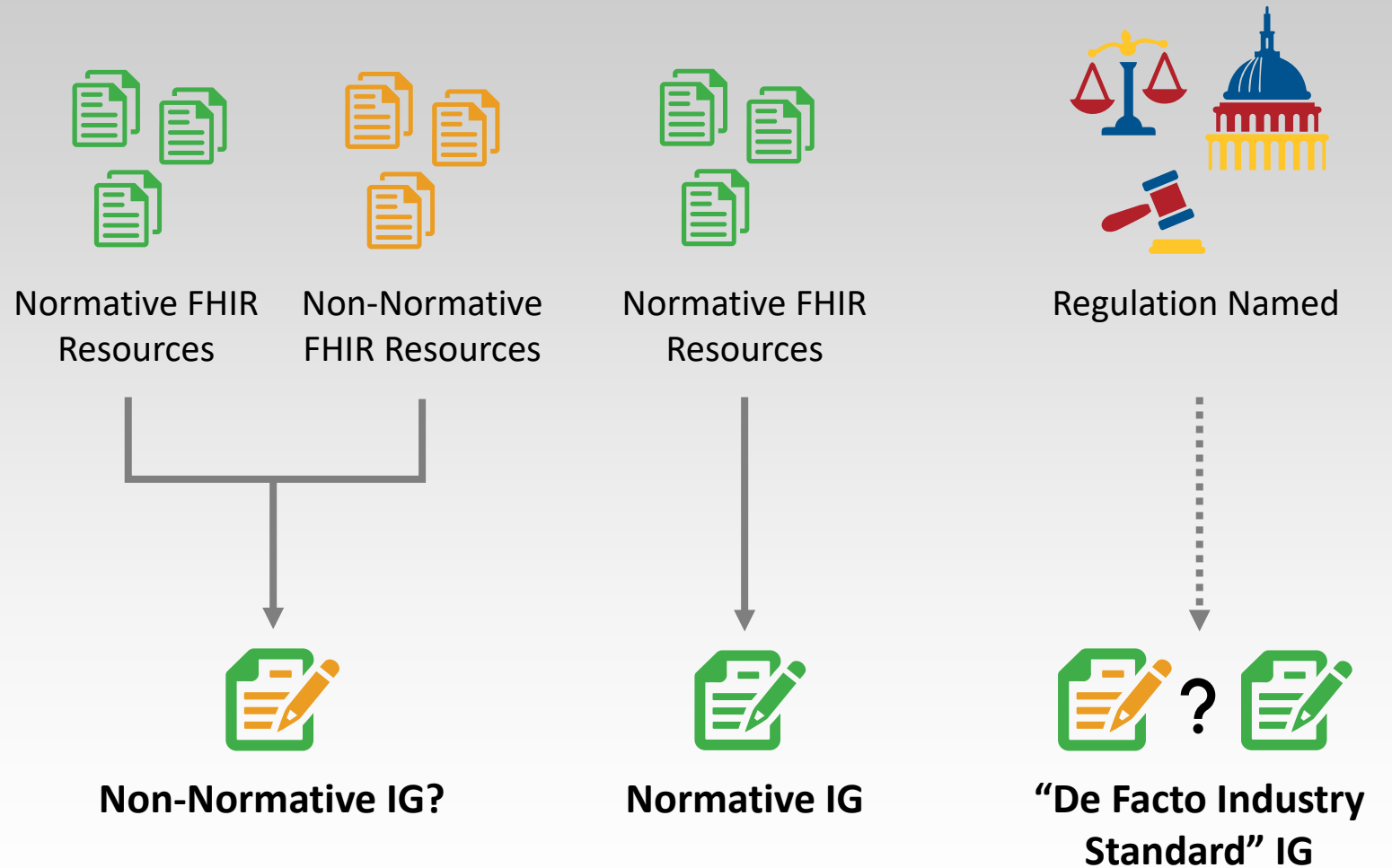**Do you support the intermediate goals?**

Please enter the reason(s) for your response and any issues or concerns in the chat box to support group discussion.

- Yes

- No

- Somewhat

AG

Do you think *FAST* should be prescribing versioning responsibilities?

Please enter the reason(s) for your response and any proposed alternatives in the chat box to support group discussion.

- Yes, they should be prescribed as part of a *FAST* solution

- No, they should not be – the market should figure it out

- Somewhat – please describe in the chat

AG

Discussion Topics

1. **Artifacts & Issues**
   - Different Paths for Different FHIR Artifacts
   - Normative vs. Non-Normative Implementation Guides
   - Multi-Version Bundles vs. Separate Bundles
   - Data Portability and Version Management
   - Profile and Implementation Guide Proliferation

2. **Process**
   - Translation
   - Mapping and Tooling
   - Conversion
   - Version Adoption and Deprecation
   - Coordination and Alignment with HL7

3. **Regulations**
   - Implications of ONC Standards Version Advancement Process (SVAP)
   - Impact on Future ONC and CMS Regulations

4. **Path Forward**
   - Solution Path Forward

BD

Artifacts & Issues

Discussion: Different Paths for Different FHIR Artifacts?

?

Do we take a different path for different FHIR artifacts (i.e., base resources, extensions, profiles, value sets)?

Resources
Versioning Requirements/ Policy

Profiles
Versioning Requirements/ Policy

Extensions
Versioning Requirements/ Policy

Value Sets
Versioning Requirements/ Policy

OR

Versioning Requirements/Policy

Resources | Profiles | Extensions | Value Sets

24

BD
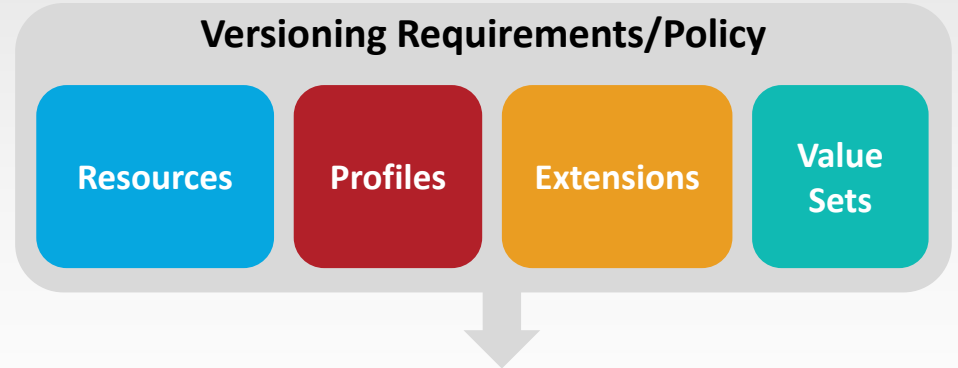
Polling Question: Different Paths for Different FHIR Artifacts?

Do you agree with the conclusions regarding different paths for different FHIR artifacts?

Please enter the reason(s) for your response and any proposed changes in the chat box to support group discussion.

- Yes

- No

- Somewhat

AG

Discussion: Normative vs. Non-Normative Implementation Guides

Implementation Guides (IGs) cannot be normative unless all resources are normative – is that the long-term rule?

How do we handle IGs named in regulation, which becomes the de facto industry standard?

Normative FHIR Resources

Non-Normative FHIR Resources

Normative FHIR Resources

Regulation Named

Non-Normative IG?

Normative IG

"De Facto Industry Standard" IG

BD

Do you agree with the conclusions regarding normative and non-normative implementation guides?

Please enter the reason(s) for your response and any proposed requirements in the chat box to support group discussion.

- Yes

- No

- Somewhat

AG

Discussion: Multi-Version Bundles vs. Separate Bundles

?

Should multi-version bundles be allowed, or should recipients request 2 separate versions of the bundle?

RECIPIENT ← DSTU 2, STU 3, and R4 Resources — SOURCE

OR

STU 3 Resources

RECIPIENT ← SOURCE
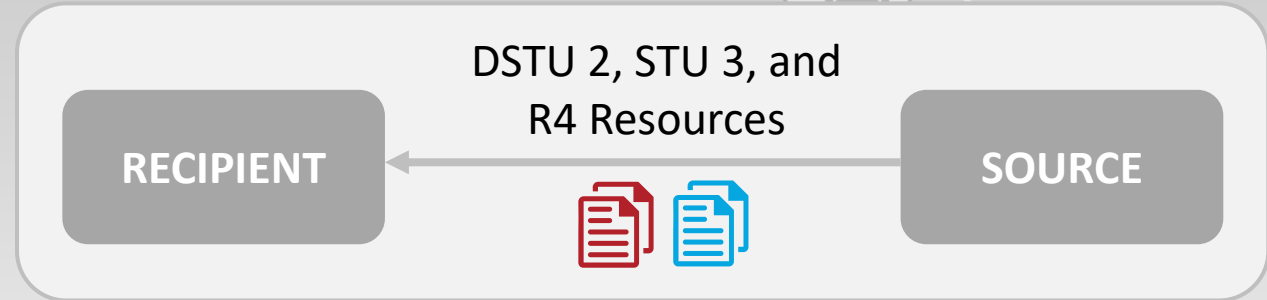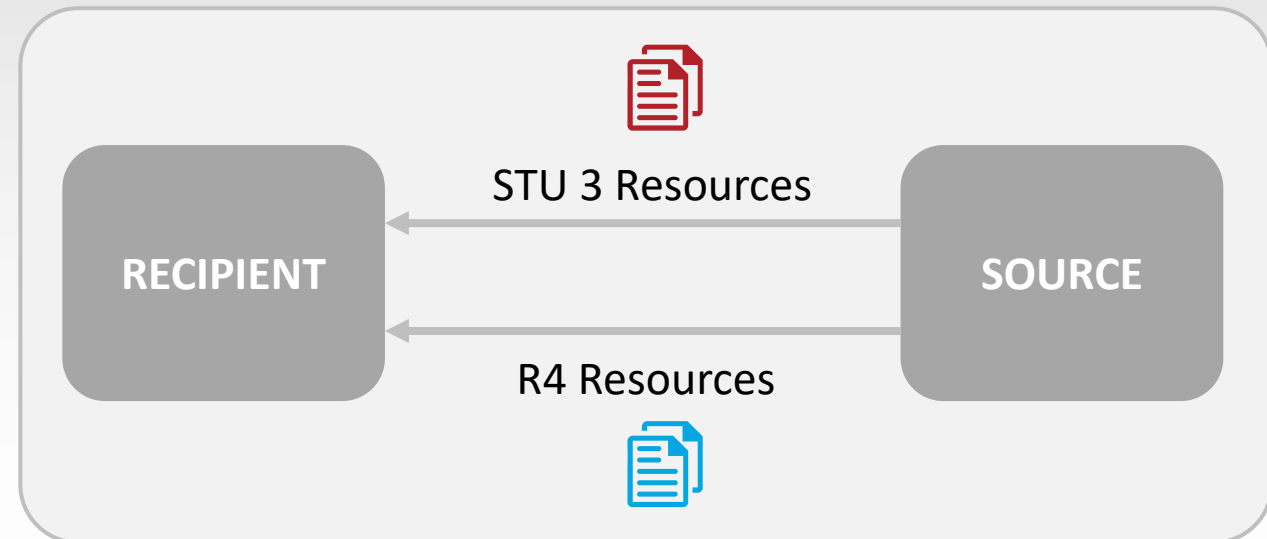
R4 Resources

Do you agree with the conclusions regarding multi-version vs. separate bundles?

Please enter the reason(s) for your response and any proposed alternatives in the chat box to support group discussion.

- Yes

- No

- Somewhat

AG

?

Discuss how version management works over time in response to new data portability requirements

(e.g., a current record may contain multiple versions of data, or the current record may be the result of multiple data translations)
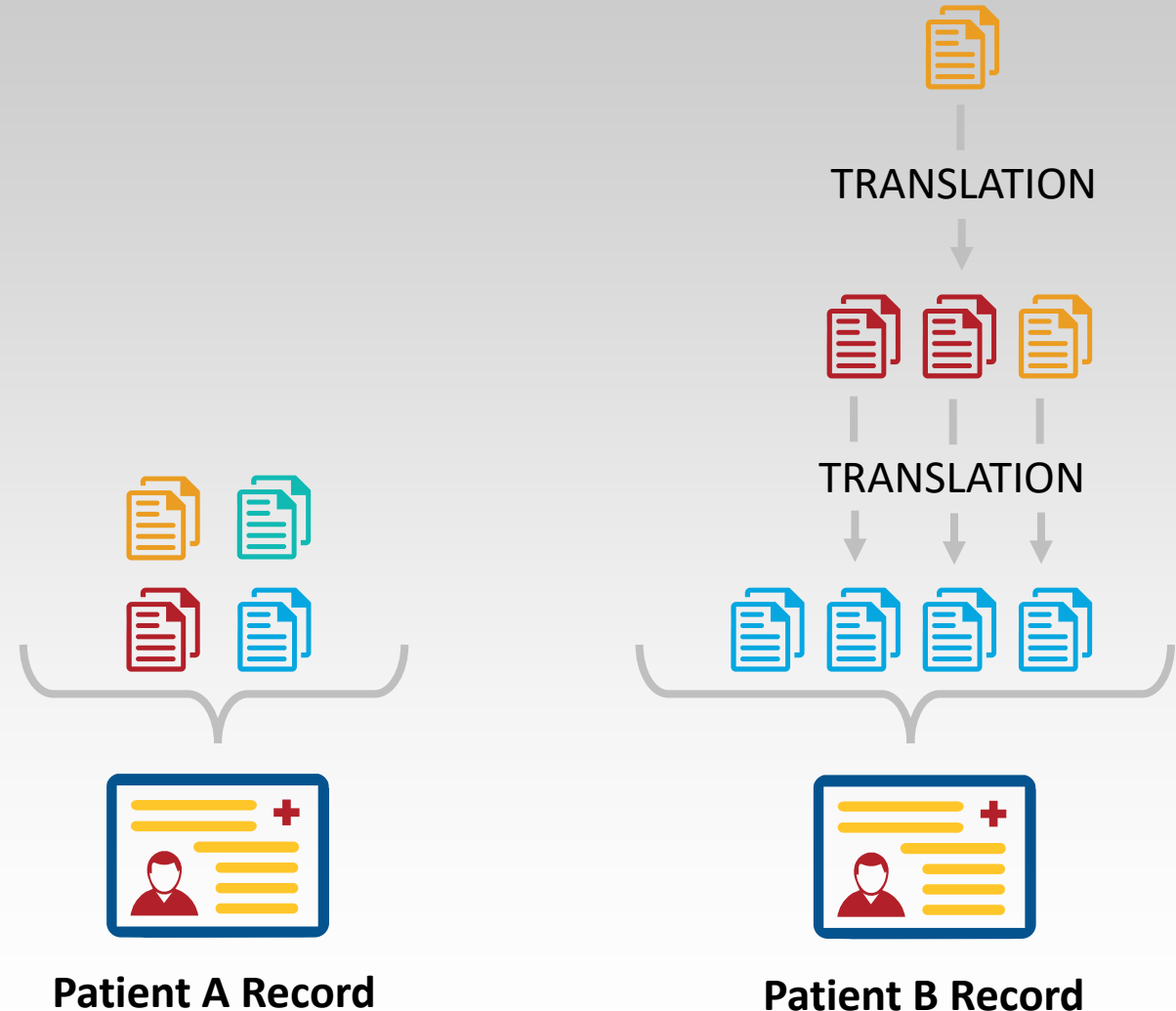
TRANSLATION

TRANSLATION

Patient A Record

Patient B Record

Do you agree with the conclusions regarding data portability and version management?

Please enter the reason(s) for your response and any proposed requirements in the chat box to support group discussion.

- Yes
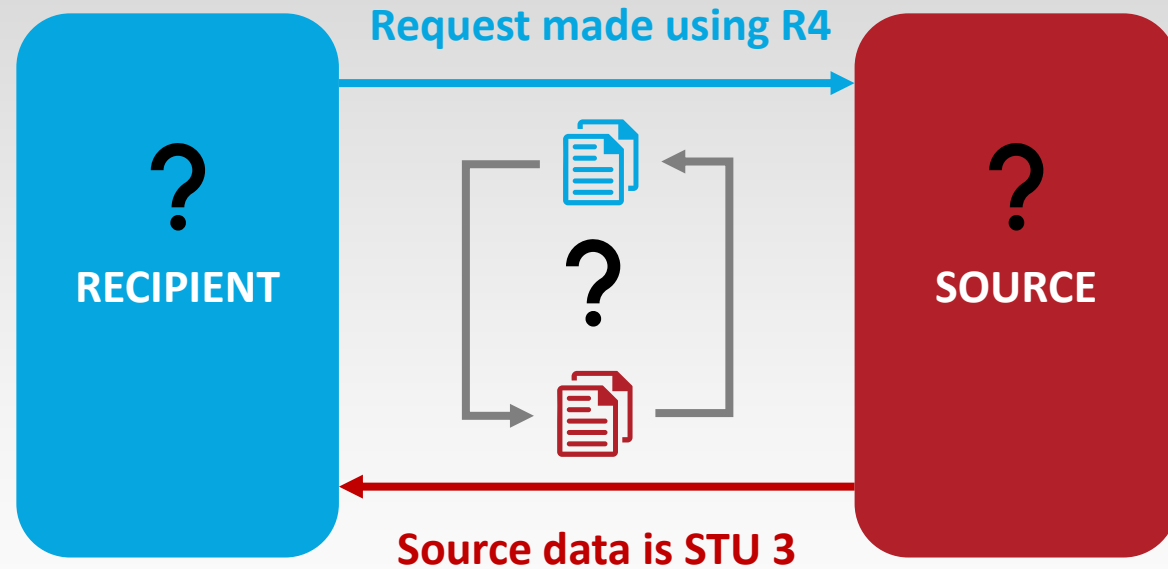- No
- Somewhat

AG

?

Discuss the proliferation of IGs and Profiles that provide for different solutions to the same fundamental use case – is this a core capability issue or an HL7 issue?

Discuss incompatible profile constraints on underlying resource in ways that do not permit reuse by other IGs (e.g., US Core constraints that do not support specific IG requirements such as PractitionerRole for Directory)

Are these *FAST* or HL7 FHIR issues, or both if we want policy and technical resolution?
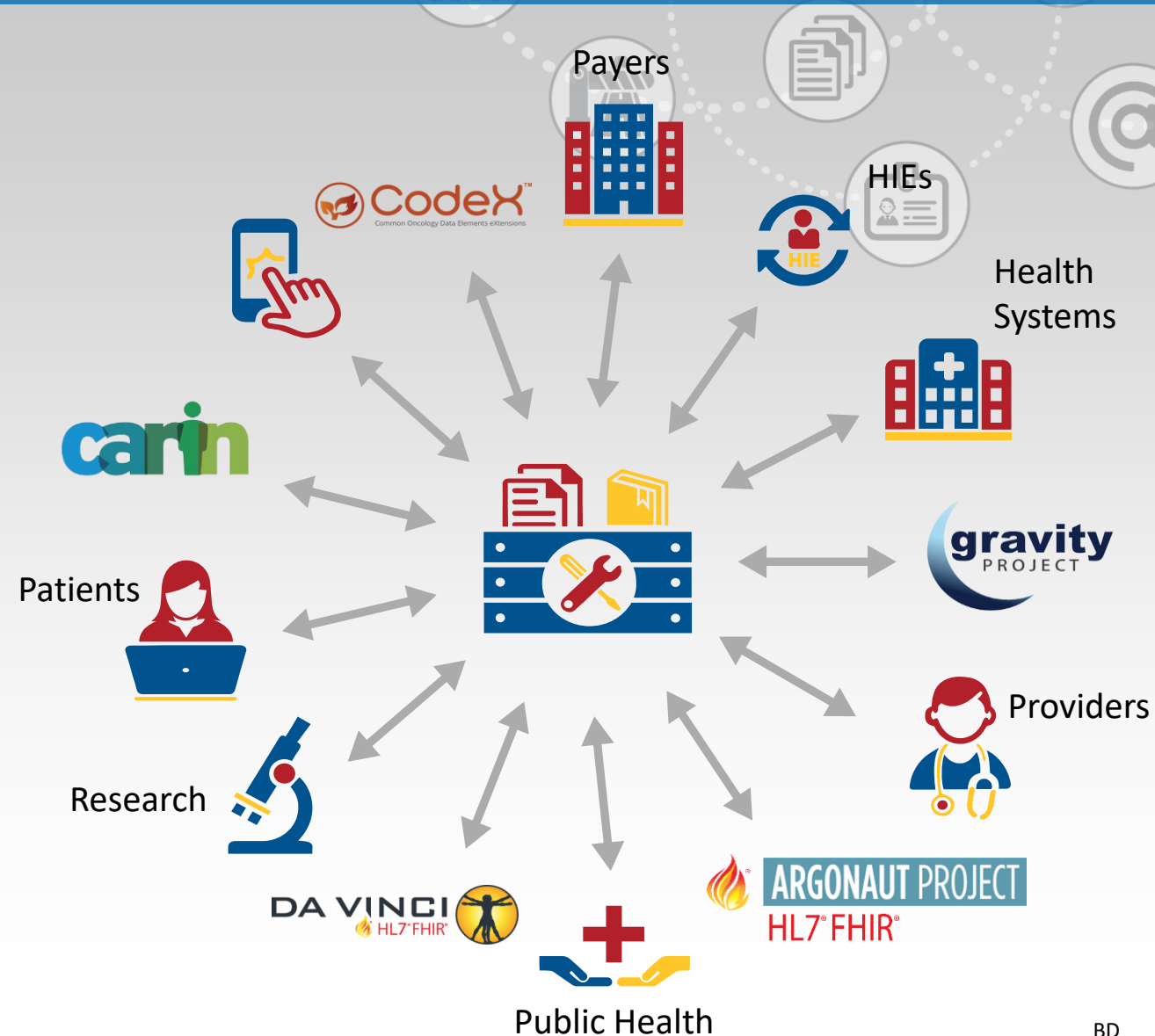
BD

Do you agree with the conclusions regarding profile and implementation guide proliferation?

Please enter the reason(s) for your response and any proposed requirements in the chat box to support group discussion.
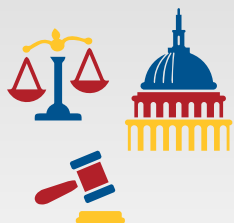
- Yes
- No
- Somewhat

AG

Process

?

What are the differences in translation methodologies for normative and non-normative artifacts? What are the implications? (i.e., backwards compatibility issue)

FHIR Artifacts

Translation

BD
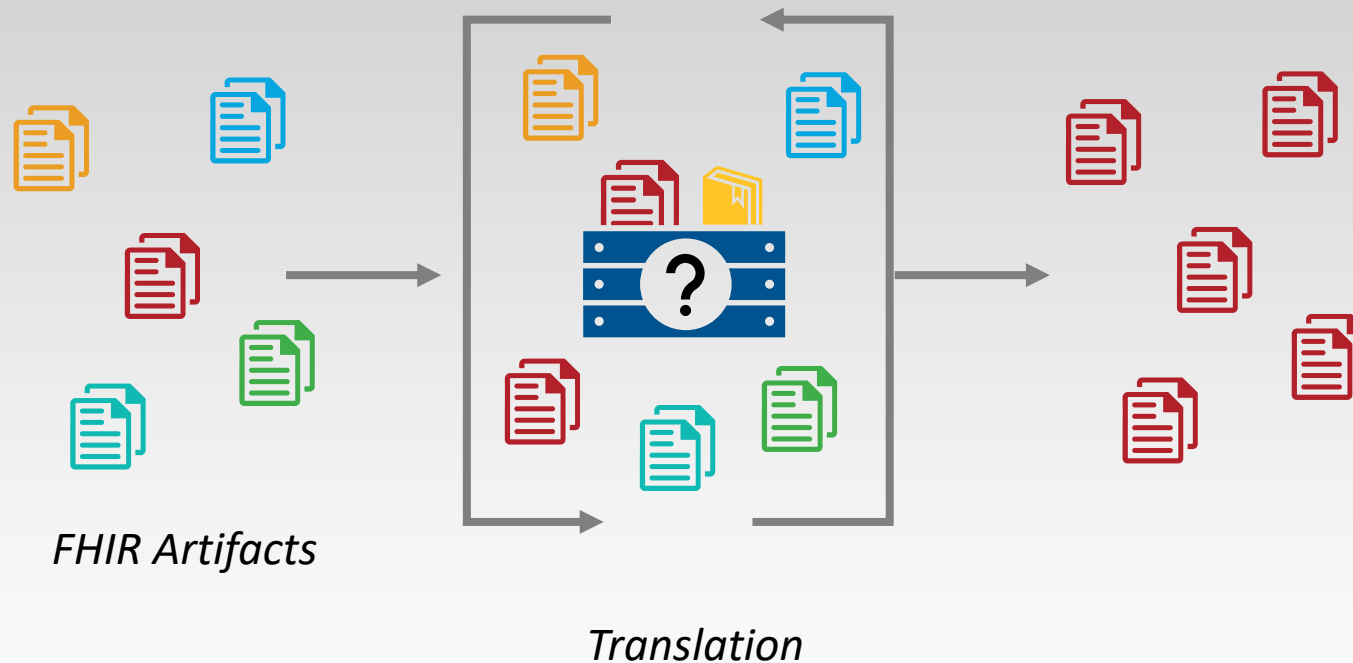
Polling Question: Translation

Do you agree with the conclusions regarding differences in translation methodologies?

Please enter the reason(s) for your response and any proposed requirements in the chat box to support group discussion.

- Yes
- No
- Somewhat

AG

?

To ensure interoperability, which organization should be responsible for the creation and maintenance of maps between versions?

Which organization(s) creates and maintains the translation tooling?

FHIR Artifacts

?

Translation
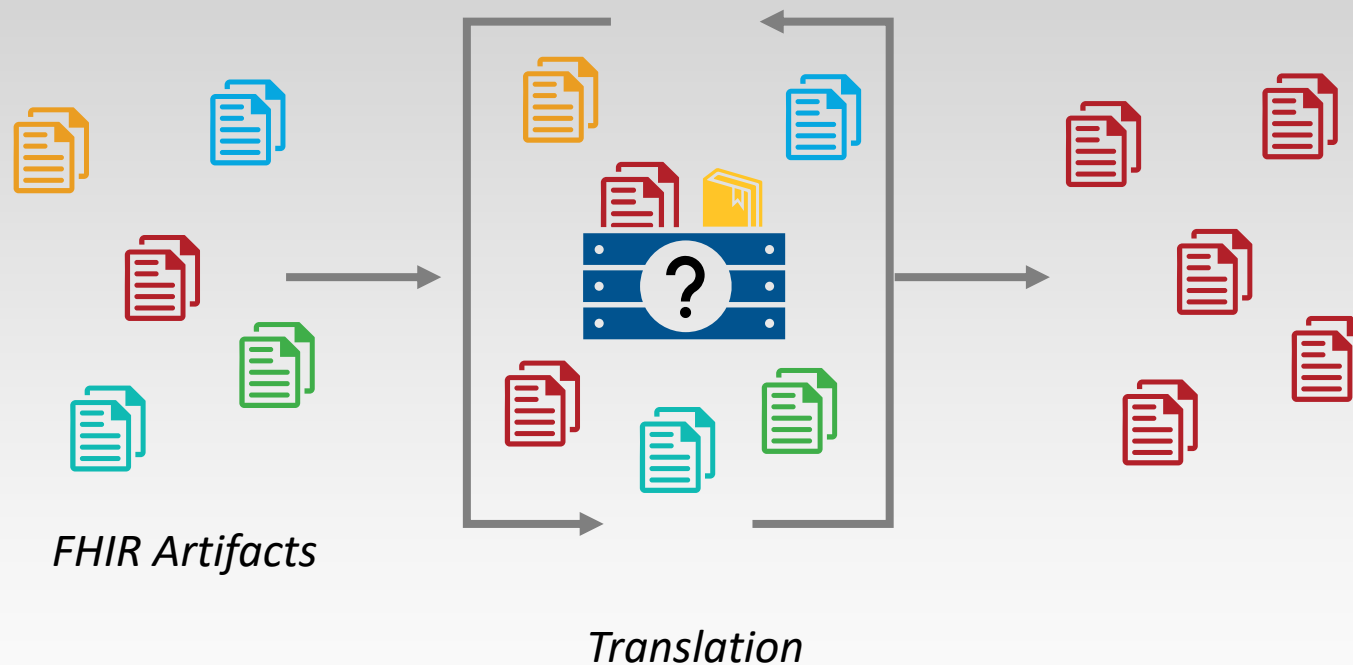
Polling Question: Mapping and Tooling

Do you agree with the conclusions regarding mapping and tooling?

Please enter the reason(s) for your response and any proposed requirements in the chat box to support group discussion.

- Yes

- No

- Somewhat

AG

Polling Question: Which Entity is Responsible for Conversion?

Do you agree with the conclusions regarding which entity is responsible for conversion?

Please enter the reason(s) for your response and any proposed alternatives in the chat box to support group discussion.

- Yes

- No

- Somewhat

AG

?

Discuss the proposed approach to version adoption and deprecation

Current process for version adoption for transactions and APIs mandated by regulation continues to be supported

Sunset old floor version 2 years after newer version is required to be supported

Willing trading partners (without any financial incentives or penalties), may choose to adopt newer versions as long as they continue to support the floor

Existing FHIR services shall be supported for at least 2 years after adoption of a new version or until there is no production activity at the endpoint for 3 months.

ENDPOINTS

PAYERS

PROVIDERS

HL7 FHIR

PATIENTS

HEALTH SYSTEMS

PUBLIC HEALTH

HIE

RESEARCH

Do you agree with the conclusions regarding version adoption & deprecation?

Please enter the reason(s) for your response and any proposed requirements in the chat box to support group discussion.

- Yes

- No

- Somewhat

AG

Polling Question: Coordination and Alignment with HL7

Do you agree with the conclusions regarding coordination and alignment with HL7?

Please enter the reason(s) for your response and any proposed requirements in the chat box to support group discussion.

- Yes
- No
- Somewhat

AG

Regulations

?

What is the impact on current and future ONC and CMS regulations?

Do you agree with the regulatory conclusions?

Please enter the reason(s) for your response and any proposed requirements in the chat box to support group discussion.

- Yes
- No
- Somewhat

AG

Path Forward

Discussion: Path Forward

What is the right output of this initiative to support the industry?

What are the next steps?

BD

Do you agree with the conclusions regarding next steps?

Please enter the reason(s) for your response and any issues or alternatives in the chat box to support group discussion.

- Yes

- No

- Somewhat

Key Takeaways

Key Takeaways

- *To Be Filled In During Meeting by POCP*

BD

FAST Next Steps

- *FAST* Report-Out to summarize SME Session discussion, decisions, and next steps: *FAST Proposed Solutions – Subject Matter Expert (SME) Panel Sessions*

- *FAST* Action Plan update to define proposed solution path (standard, regulation and/or process)

In the meantime, please reach out to the *FAST* team with additional feedback or questions!

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

Thank You – Today's Facilitators

Alexandra (Alix) Goss
*Vice President
and Senior Consultant*
Imprado

Robert Dieterle
CEO
EnableCare

Patrick Murta
*Solutions
Architecture Fellow*
Humana

Paul Oates
*Senior Enterprise Architect and
Lead for the IT M&A Practice*
Cigna

Connect with us 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 Alex Kontur at Alex.Kontur@hhs.gov