

ONC FHIR at Scale Taskforce (FAST): Getting Involved in 2021

Presenters – ONC Lead & FAST Chief Architects







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(FAST)

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- 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:
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- Today's Meeting Objectives
- What is FAST?
- FAST Solution Overview
- FAST January 2021 HL7 Connectathon Testing and Results
- FAST Action Plan: The Path Forward & How You Can Get Involved
- FAST Pilot Plans
- FAST Artifacts and More...
- Q & A



- Learn more about the *FAST* solutions and Initiative progress, with testing and standards development work already underway
- Understand how the FAST solutions can relate to your organization's roadmap
- Identify where and when you or your organization can get involved

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What is FAST ?





The **FHIR at Scale Taskforce (FAST)**, convened by the Office of the National Coordinator for Health IT (ONC), brings together a highly representative group of motivated healthcare industry stakeholders and health information technology experts.

> The group is set to identify HL7[®] Fast Healthcare Interoperability Resources (FHIR[®]) scalability gaps and possible solutions, analysis that will address current barriers and will accelerate FHIR adoption at scale.

Paving the Way Towards FHIR "at Scale"





FAST Proposed Solutions

Directory, Version & Scale (3)

ldentity (4)

Excha

Exchange Process (1)

Testing & Certification (1)

Security (4)

A US Wide Solution for a National Healthcare Directory

A US Wide Methodology for Supporting Multiple Production Versions of FHIR

US Wide Scaling Requirements for FHIR RESTful Exchange Intermediaries

National Standards Based Approaches for Individual Identity Management

- Mediated Patient Matching
- Collaborative Patient Matching
- Networked Identity Management
- Distributed Identity Management





FAST Identity Management

Solution Options: Low to High Complexity

Multiple options progressing from lower to higher complexity (technical and process)



Identity Managment- Overview and status



BARRIER

The industry currently employs a range of patient matching and identity management processes with inconsistencies and limited scalability beyond the walls of an organization



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 incremental advancement and innovation



IN SCOPE

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



OUT OF SCOPE

Contractual arrangements, grammar for communicating consents and level of identity verification for certain attributes, and for access grants/delegation.

(Security and directory considerations are addressed by other FAST solutions)



CURRENT SOLUTION

<u>FAST Identity proposed</u> <u>solution document</u> (version 3 in progress)



STATUS Incorporated feedback from industry stakeholders



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

FAST: Scalable Registration, Authentication, and Authorization for FHIR Ecosystem Participants

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Proposed Solution: Trusted Ecosystem Ŷ **UDAP Server** Server **Metadata Metadata UDAP JWT-Based** Authorization Assertions **UDAP Trusted Authorization Assertions Dynamic Client Registration** Trusted DCR Client **UDAP JWT-Based** Authentication **Client Authentication UDAP Tiered OAuth** User Authentication

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 timeconsuming 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 Incorporated 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 draft)



FAST National Healthcare Directory

FAST Endpoint Directory – Architecture and Workflow



FAST National Healthcare Directory- Overview and status



BARRIER

The industry lacks a generally available method to find healthcare related individuals, organizations, and 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 federated directories for enhancement and integration into specific workflows



IN SCOPE

Healthcare validated directory including individual and entity demographics and relationships to determine appropriate endpoint(s), computable endpoint information such as versions supported, metadata for routing, trust framework, implementation guides and certification status

Federated access by HIEs, state directories, EHRs



OUT OF SCOPE

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



STATUS

Submitted and obtained approval for HL7 Project Scope Statement (PSS) to initiate development of 3 HL7 Implementation Guides, targeted for Sept 2021 STU Ballot



OPEN ITEMS

Define the minimum viable product (MVP) & outline the incremental steps/roadmap to build a directory of endpoints. Develop IGs. Connectathons



CURRENT SOLUTION

FAST Endpoint directory proposed solution document (version 3)

FAST HL7 FHIR Standard Based Solution for Hybrid/Intermediary Exchange (Exchange with or without Intermediaries)

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



Overview and status



BARRIER

FHIR information exchange is typically performed "point to point" between two trusted system endpoints. Because healthcare participants may also wish to leverage intermediaries in FHIR exchanges, a solution for conveying routing information 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 routing information within HTTP REST headers



OUT OF SCOPE

Value set defining exchange identifiers. Capturing provenance information from exchange through multiple intermediary "hops" Security considerations are being addressed by the FAST Security Tiger Team through a separate implementation guide



STATUS

Incorporated feedback from industry stakeholders. Full SME session report <u>here</u>. Connectathon testing & implementation guide development through the HL7 balloting process.



OPEN ITEMS

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



CURRENT SOLUTION

FAST Exchange solution document (version 3 in progress)

FAST FHIR Testing & Certification Platform

91110

Proposed Solution: ONC FAST Testing & Certification Program



DEVELOPER

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

Automated Test Platform

Certification Body

Test Scripts

Confirm *FAST* Readiness Criteria by simultaneously testing...

Basic FHIR Conformance

FHIR IG Conformance

Provenance

Versions

Overview and status



BARRIER

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



STATUS Incorporating feedback from industry stakeholders



SOLUTION

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

Automated tool to perform testing and validation & ONC FHIR Testing & Certification

Program



OPEN ITEMS

Assertion Table Completion: to document solution guidance type, clarify test method, and who needs to test. Explore and finalize an RFI



IN SCOPE

Establish scope of assertions for validation testing & certification to FAST readiness criteria. Draft RFI to gather information on best approach



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



CURRENT SOLUTION <u>FAST Testing & Certification</u> <u>solution document</u> (version 3 in progress)

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



CONFORMANCE & CERTIFICATION (Testing & Certification Program)

PILOTS (FAST Capability Vetting with Existing HL7 Accelerators)

igodol

FAST HL7 Connectathon Testing: Results from January 2021

2111

FAST Hybrid/Intermediary Exchange (Exchange with or without Intermediaries)

Track Purpose:

- Start to test FHIR interactions across intermediaries as opposed to direct point to point interactions
 - Headers needed for routing across intermediaries
 - Ability to respond using headers in the return message

Track Goals:

- Determine if we have the routing information embedded in the headers that we need to deliver and receive via FHIR
- Update draft "pre-IG" Google Doc with testing feedback



Project Scope Statement (PSS): FAST Exchange Metadata Using RESTful Headers

Track Lead: Durwin Day, dayd@bcbsil.com and Patrick Murta, pmurta@humana.com

FAST Hybrid/Intermediary Exchange (Exchange with or without Intermediaries)

Process Flow (With Headers, With Directory, With Intermediaries)



FAST Security/ Identity – Cross Organization Application Access

Track Purpose:

 Tests scalable ecosystem trust models as are being explored by FAST and Carequality.

Track Goals:

Track 2:Trusted Dynamic Registration & JWT-Based Authentication (B2B)

- Precondition: Client's UDAP certificate is trusted
- Action: Client app registers, authenticates, and requests FHIR data
- Success Criteria: Client app successfully registers, authenticates, and obtains FHIR data
- Bonus point: Client and server use Tiered OAuth to authenticate user



Track Confluence Page: 2021-01 Cross Organization Application Access

Track Lead: Luis Maas

FAST Endpoint Directory – Related Connectathon Tracks

1. Da Vinci PDex Plan Net (Provider Directory)

Track Goal:

 Exercise the implementation guide to allow payers to meet the CMS Interoperability and Patient Access rule for making their provider networks available through an API

Track Confluence Pages:

- Combined Track: <u>2021-01 Da Vinci Patient Access API (PDex/Plan</u> <u>Net/Formulary</u>)
- Sub-Track: <u>2021-01 Da Vinci PDex Plan-Net (Provider Directory)</u>

Implementation Guide: http://hl7.org/fhir/us/davinci-pdex-plan-net/STU1

Track Lead: Saul Kravitz (saul@mitre.org)

2. Da Vinci HRex/CDex/PCDE – Health Record, Clinical Data & Payer Coverage Decision Exchange

Track Goals:

- Exchange clinical data from provider to provider and provider to payer
- Payer-to-payer data exchange to ensure continuity of care when a patient transitions between payers
- Test payer endpoint directory to support payer exchanges

Track Confluence Page: 2021-01 Da Vinci - HRex/CDex/PCDE - Health Record, Clinical Data & Payer Coverage Decision Exchange

Implementation Guides:

- HRex FHIR Implementation Guide (Continuous Build version)
- CDex FHIR Implementation Guide (Continuous Build version)
- <u>PCDE FHIR Implementation Guide (Continuous Build version)</u>
 Track Leads: Lloyd McKenzie (<u>lloyd@lmckenzie.com</u>), May Terry (<u>mayt@mitre.org</u>), Joseph Minieri (jminieri@mitre.org)

If interested in more information, contact FAST solution lead: Bob Dieterle



FAST Action Plan: The Path Forward & How You Can Get Involved

How Can You Get Involved and What Can You Do?

- Participate in upcoming Connectathons
- Join HL7 Work Groups to help further develop the FAST Implementation Guides
- Participate in the FAST Pilot Program

Q

Moving Solutions to Standards Development & Implementation Readiness

	An HL7 FHIR Standard Based Solution EXCHANGE with or without Intermed	ard Based Solution for A US Wide Solution FOR FHIR ENDPO I without Intermediaries					OVERY	US Wide Model(s) for Scalable SECURITY Solutions	
SOLUTIONS									
	HL7 IG: <i>FAST</i> : Exchange with or without Intermediaries		HL7 IG: Update HL7 IG VHDir for US Endpoi Realm Quer		HL7 IG: Attestation and Validation		BUILD ASSET: National Source of Truth Directory	HL7 IG: FAST: Scalable Registration, Authentication, and Authorization for FHIR Ecosystem Participants	
	Implementation Guide Development & Balloting		Implementation Guide Development & Balloting		oting	Support Naming the Developer Organization	Implementation Guide Development & Balloting		
	JOIN the HL7 Sponsoring Workgroup: FHIR Infrastructure		JOIN the HL7 Sponsoring Workgroup: Patient Administration Targeting Sept 2021 STU Ballots and Ballot for Comment		omment	Contact the FAST Directory, Version & Scale Tiger Team	JOIN the HL7 Sponsoring Workgroup: Securi Targeting Sept 2021 STU Ballot		
		(Attestation and Validation)				Leads			
INDUSTRY	2021 Connectathons								
ENGAGEMENT	Join us at the <u>HL7 FHIR May Connectathon</u> May 17-19, 2021				Look for us at the <u>HL7 FHIR September Connectathon</u> Sept 13-14, 2021				
	Pilots, Testing, Validation & Industry Stakeholder Engagement	Provider	Payers	IT Vendors	Research	Networks	Intermediaries	EHRs Population Health Public Healt	
					Solu ⁻	tions	Standards	Tool/Asset Testing/Pilo	

Moving Solutions to Standards Development & Implementation Readiness

	National Standards Based Approaches f IDENTITY Management	FHIR TESTING & CERTIFI	CATION Platform	A US Wide Methodology for Supporting Multiple Production VERSIONS of FHIR	US Wide SCALING Requirements for FHIR RESTful Exchange Intermediaries			
SOLUTIONS								
ARTIFACTS	Proposed HL7 IG: FHIR \$match Query for Cross- Organizational (B2B) Exchange Practices in Healthcare to Establish Digital Identity		Finalizing the Solution Path Forward Exploring potential for RFI BUILD ASSET: Testing & Certification Tooling		Finalizing the Solution Path Forward FAST solution documentation	Finalizing the Solution Path Forward FAST solution documentation		
	Implementation Guide Development & Balloting in	ider overlaps other industry nitiatives	Support RFI F	Process	SME Session to be Scheduled	SME Session to be Scheduled		
	Socializing recommended solutions with HL7/ Sponsoring Workgroup TBD Contact the Identity Tiger Contact t	e recommended is with relevant y stakeholders the Identity Tiger	Respond to Contact the Testing & Tiger Team	RFI & Certification	Look for updates/results from SME Session on the <u>FAST project page</u>	Look for updates/results from SME Session on the <u>FAST project page</u>		
INDUSTRY ENGAGEMENT	Team Leads Te	eam Leads						
	Follow the <i>FAST</i> Technical Learning Community on <u>LinkedIn</u> for updates							
	Pilots, Testing, Validation & Industry Stakeholder Engagement		ers IT Vendors Research Networks		Intermediaries EHRs Popu	ulation Health Public Health		
	Science Scienc	olutions 🔲 Star	ndards 🔲 Guidar	ce Tool/Ass	et 📃 Under Developme	ent Testing/Pilots		

Next Steps Through 2021: Hybrid/Intermediary Exchange



Project Scope Statement (PSS) Approved by FHIR Infrastructure (FHIR-I) WG

2022

DEC

Hybrid/Intermediary Exchange (Exchange with or without Intermediaries)

Now What?

- Incorporate track feedback/discussion into IG development
- Continue to engage the community in further solution development, testing
- Develop the Implementation Guide

Sign up to vote in the May 2021 Ballot Cycle (March 15th – April 15th)

HL7 Milestone	Due Date
Project Proposal	\checkmark
Project Scope Statement (PSS)	\checkmark
FHIR IG Proposal	\checkmark
Notice of Intent to Ballot (NIB)	\checkmark
Ballot Signup Starts	March 15, 2021
Final IG Content	April 11, 2021
Ballot Signup Ends	April 15, 2021
Ballot Voting Starts	April 16, 2021
Ballot Voting Ends	May 16, 2021

Next Steps Through 2021 (DRAFT): National Healthcare Directory



National Healthcare Directory

Now What?

- HL7 Technical Steering Committee (TSC) final review and approval of Project Scope Statement (PSS)
- Develop FHIR IG Proposal
- Submit a Notice of Intent to Ballot (NIB) to progress project through HL7 balloting process

HL7 Milestone	Due Date
Project Proposal	\checkmark
Project Scope Statement (PSS)	April 25, 2021
FHIR IG Proposal	June 20, 2021
Notice of Intent to Ballot (NIB)	July 4, 2021
Ballot Signup Starts	July 12, 2021
Final IG Content	August 8, 2021
Ballot Signup Ends	August 12, 2021
Ballot Voting Starts	August 13, 2021
Ballot Voting Ends	September 13, 2021

Next Steps Through 2021 (DRAFT): Scalable Registration, Authentication, and Authorization for FHIR Ecosystem Participants



Continue Collaborating with Carequality, CommonWell, and other Industry Stakeholders

PO



Scalable Registration, Authentication, and Authorization for FHIR Ecosystem Participants

Now What?

- HL7 Technical Steering Committee (TSC) final review and approval of Project Scope Statement (PSS)
- Develop FHIR IG Proposal
- Submit a Notice of Intent to Ballot (NIB) to progress project through HL7 balloting process

HL7 Milestone	Due Date
Project Proposal	\checkmark
Project Scope Statement (PSS)	April 25, 2021
FHIR IG Proposal	June 20, 2021
Notice of Intent to Ballot (NIB)	July 4, 2021
Ballot Signup Starts	July 12, 2021
Final IG Content	August 8, 2021
Ballot Signup Ends	August 12, 2021
Ballot Voting Starts	August 13, 2021
Ballot Voting Ends	September 13, 2021

FAST Pilot Plans:

Initial Testing Strategy Using Da Vinci Use Cases

21110



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



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



FAST Solutions Tested

	Directory	Versioning	Exchange	ldentity	Scale	Security	Conformance & Certification
	✓	✓	✓	✓		√	✓
345	~	✓	✓	✓		✓	✓

(Optional - complete or selected DocumentBundle + PDF)

¥7



FAST Solutions Tested via Da Vinci Use Cases

FAST Solutions Tested

Da Vinci Use Case	Directory	Versioning	Exchange	Identity	Scale	Security	Conformance & Certification
Coverage Requirements Discovery (CRD)	\checkmark		\checkmark	\checkmark		\checkmark	
Documentation Templates & Rules (DTR)	✓	✓		\checkmark		✓	✓
Prior Authorization Support (PAS)	\checkmark						
Payer Data Exchange (PDex)	\checkmark	\checkmark	\checkmark	\checkmark		✓	\checkmark
Clinical Data Exchange (CDex)	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark	\checkmark



Next Steps Through 2021 (DRAFT): Pilots



Phase 1: Validation/Technical Testing Through Connectathons

HL7 FHIR JANUARY 2021 CONNECTATHON







Phase 2: Pilot Toolkit/Sandbox – Stakeholders Select Relevant Tools





Phase 2: Pilot Toolkit/Sandbox Contents



FAST Artifacts and More ...



New to *FAST*? Or looking for more details? Explore the following *FAST* artifacts:

- 2020 FAST Action Plan
- 2020 FAST End of Year Report
- 2020 FAST Workshop Materials
- The FAST 2020 Mid-Year Report
- The FAST 2019 End of Year Report
- <u>SME Panel Session Pages</u>
- Key Accomplishments

GET INVOLVED!

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

> <u>JOIN THE LINKEDIN GROUP</u> & <u>SIGN UP FOR THE TLC</u>

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



Questions?

Thank You – Today's Presenters

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For more information on the FAST Initiative, visit the FAST Project Page

Have any further questions/suggestions?

Please contact Stephen Konya at <u>Stephen.Konya@hhs.gov</u>