FAST UPDATE
HL7 Birds of a Feather
January, 2023
Agenda

• What is FAST?
• FAST Connectathons Recap
• Current & Future FAST Work
• How to Get Involved in FAST
Presenters

Mario Hyland  
Senior VP & Founder, AEGIS  
FAST Founding Member, FAST Steering Committee Member

Duncan Weatherston  
CEO  
Smile CDR  
FAST Founding Member, Co-chair, FAST Steering Committee
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What is FAST?

The FHIR at Scale Taskforce (FAST) is a representative community of motivated healthcare industry stakeholders and health information technology experts who have identified HL7® Fast Healthcare Interoperability Resources (FHIR®) scalability gaps and are actively working on solutions to address current barriers to enable scalable data exchange using FHIR APIs.

Oct 2017 – Payer + Provider (P2) FHIR Taskforce Established
Originally focused on Payer/Provider collaboration

2017

2018

Analysis, Barrier identification, Solution Concepts, Gather Industry Feedback

2019

2020

Implementation Guide Dev Begins

2021

Transition to FHIR Accelerator

2022 and the Future

Purpose: Establish a durable community for addressing ecosystem-wide barriers to using FHIR to enable interoperability at scale

ONC FHIR at Scale Taskforce (FAST)
Purpose: Identify ecosystem barriers, propose solutions, and develop standards to implement solutions

HL7 FAST Accelerator

Continue collaborative work to develop FAST solutions (IGs) under the HL7 FHIR Accelerator Program

All content is available on the FAST Project Page.
What is the Problem?

**TODAY - Exchange**
- Exchange characterized by point-to-point interfaces
- Adoption trajectory is slow, expensive, and fragmented

**FUTURE - Interoperability**
- A consistent infrastructure approach to API implementation
- Consensus on implementation guides for key enablers, such as directory, security, patient matching, exchange and testing

**DESIRERED RESULT:**
- A national interoperability approach that enables consistent data exchange via API. We have this for administrative transactions (X12, clearinghouses, WEDI) and pharmacy transactions (NCPDP, Surescripts). We do not have this for HL7-FHIR.
FAST Founding Members

FAST 2022 Founding Members
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
Direct Connect or via Intermediaries

Intermediaries

Identity
Interoperable Digital identity & Patient Matching

National Directory
Endpoints – Profiles – Versioning – Trust - Conformance
• FAST develops Implementation Guides to address common implementation challenges but that’s just step one!

• FAST is dedicated to supporting & encouraging the implementation community to ensure FAST IGs are being widely adopted and provide clarification or address confusion where any exists.

• FAST also encourages testing early and often

• FAST is working collaboratively with governing bodies to build alignment with their mandates
FAST Connectathon Approach & Recap
**FAST Connectathon Tracks & Goals**

**FAST Infrastructure Track**

**Goals**
- Integrate AEGIS Touchstone Platform and Integrated Ecosystem into the lifecycle process as a stepping stone to broader future testing capability in order to support wide-industry adoption.
- Test end-to-end FAST solutions (Security, Identity, Directory, Exchange) with monitoring of data exchange.
- Verify that the FAST infrastructure supports requirements in the CMS rules for Interoperability and Patient Access as well as Reducing Provider and Patient Burden.

**FAST Version & Testing**

**Goals**
- Evaluate the communities view on FHIR Versioning knowledge, questions and concerns.

**FAST National Directory of Healthcare Providers & Services**

**Goals**
- Test National Directory & Plan Net Implementation Guides
- Review and test combined Directory IG
- Test ability to populate directory and exchange information with distributed directories
FHIR Connectathon 32

**Test Case #1** – Create R4 resource, Read R4 resource, Read R3 resource
- expected outcome Read R3 resource should report a failure

**Test Case #2** – Query FHIR Connectathon 32 FHIR Server Capability Statement, and Profile details for “default” and supported FHIR Versions, FHIR IG Versions, FHIR Profiles supported
- FHIR Server should respond back with the default support FHIR Version, IG version, and profile version. Includes a list of support versions when more than one.

**Test Case #3** – Update FHIR Connectathon 32 FHIR Servers with R4 support, by referencing R3 resource and profiles.
- expected outcome Update operation should report a failure
More than 67 attendees participated in the HL7 FAST Q4 session on Versioning and Testing. The following poll was taken to assess participants position on the importance of versioning standards, IG's and Profiles used across the Ecosystem.

**FAST Connectathon 32 Observations**

<table>
<thead>
<tr>
<th>FHIR Server</th>
<th>Base URL</th>
<th>Create R4 Patient</th>
<th>Read Patient (R4)</th>
<th>Read Patient (R3)</th>
<th>Read Patient (R3) Response Payload</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firely Server</td>
<td><a href="https://server.fire.ly/v4">https://server.fire.ly/v4</a></td>
<td>201 - Created</td>
<td>200 - OK</td>
<td>400 - Bad Request (Client)</td>
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<td>HAPI R4</td>
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<td>201 - Created</td>
<td>200 - OK</td>
<td>200 - OK</td>
<td>R4 Patient returned in payload</td>
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<tr>
<td>AEGIS WildFHIR R4</td>
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<td>200 - OK</td>
<td>200 - OK</td>
<td>R4 Patient returned in payload</td>
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<tr>
<td>Lantana Connectathon</td>
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<td></td>
<td></td>
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<td>mCODE STU2 R4</td>
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<td>201 - Created</td>
<td>200 - OK</td>
<td>200 - OK</td>
<td>R4 Patient returned in payload</td>
</tr>
<tr>
<td>MIHIN Open Server</td>
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<td>201 - Created</td>
<td>200 - OK</td>
<td>200 - OK</td>
<td>R4 Patient returned in payload</td>
</tr>
</tbody>
</table>

**HL7's January Working Group Meeting**

Poll question: Will Normative versions of the FHIR Standard, FHIR IG, and FHIR Profiles reduce breaking changes, or eliminate them?

- **Reduce** 46%
- **Expect future breaking changes with FHIR** 36%
- **Unknown** 15%
- **Eliminate** 1%
Future FAST Infrastructure Scenarios

Scenario 1: Make endpoint query, add and attest to organizational information and endpoints

Scenario 2: Patient visits Hospital for an appointment; Hospital identity proofs the Patient and collects information during patient registration

• Scenario 2b - Provider (or other trusted third party) app uses verified patient identity to locate records in a networked query

Scenario 3: PCP has a need for information held by Hospital, with or without Intermediary

• Scenario 3b – negative test: Try same process with Patient B, who exists, but does not have authorization

Scenario 4: Patient Directed Exchange by Patient authorizing exchange using UDAP Tiered OAuth instead of JWT-based Authentication

Scenario 5: Sharing demographic attributes and/or Digital Identifier within an authorization extension object in UDAP Security's JWT-based authentication

Future FAST National Directory Scenarios

Scenario 1 – Contribute to the NDH
Attesters contribute data to the National Directory (with special focus on Organization and Endpoint)

Scenario 2 – Validation of contributions
Information is validated to conform to the IG standards, including the underlying FHIR standards

Scenario 3- Query the NDH directly
Testing in the supported query standards as defined by the capability statements, with special focus on requesting the Endpoint for an organization.

Scenario 4 – Exchange data between the NDH and a distributed directory
A distributed directory queries NDH and stores information locally
Cross-Accelerator Collaboration
• CMS Request for Information (RFI): National Directory of Healthcare Providers & Services (NDH)
  – FAST submitted comments
  – FAST coordinated and contributed to the HL7 response

• Draft TEFCA Facilitated FHIR Implementation Guide
  – FAST submitted a member statement and technical feedback.

• All future FAST comment letters and policy responses can be found on the FAST Confluence page on the FAST Comment Letters page.

Want to discuss or collaborate with FAST on future policy responses? Please reach out to us at fast@hl7.org
Members from providers, payers, vendors and government and we are actively seeking new participants.

FAST backlog reviewed with all the accelerator leads to get their input regarding priorities or any missing items.

Da Vinci coordination so implementers can leverage what FAST is working on

The CARIN Alliance had a representative on the FAST Identity team to provide input into the FAST Identity IG.

As part of cross-initiative collaboration, we engaged with CommonWell and Carequality who provided input into the FAST Security/ UDAP work and have implemented UDAP.
Current & Future

FAST Work
# FAST Implementation Guide Dashboard

<table>
<thead>
<tr>
<th>Implementation Guide</th>
<th>Project Page</th>
<th>Scenarios Included</th>
<th>IG Status</th>
<th>Reference Implementation</th>
<th>Number of Connectathons</th>
<th>Sponsoring Workgroup</th>
<th>Project Number</th>
<th>PSS</th>
<th>Zulip Stream</th>
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</thead>
<tbody>
<tr>
<td><strong>Hybrid/ Intermediary Exchange</strong></td>
<td>FHIR at Scale (FAST): Exchange with or without Intermediaries</td>
<td>Passive intermediaries</td>
<td>STU 1 Published</td>
<td>TBD</td>
<td>8</td>
<td>FHIR-I WorkGroup</td>
<td>1653</td>
<td>PSS for FAST Exchange Metadata Using RESTful Headers</td>
<td>FHIR at Scale (FAST): Exchange with/without intermediaries</td>
</tr>
</tbody>
</table>

https://confluence.hl7.org/display/FAST/FAST+Implementation+Guide+Dashboard
Future FAST Work

• FAST established a Backlog Workgroup with the purpose to:
  – Review work in FAST’s original scope to determine priority
  – Assess additional work projects suggested by
    • FAST Members
    • Other FHIR Accelerators
    • Stakeholders participating in public meetings
  – Identify near and long term project priorities and make recommendations to FAST Steering regarding resource allocation

• HL7 community can submit new ideas: FAST Use Case Submission Form
FAST Roadmap

- **Security**
  - 2023
    - Jan: Security Ref Imp and Test Script Development/Updates
    - Feb: Directory IG Ballot Rec STU 1 (May 2023 Ballot Cycle)
    - Mar: Directory IG Ballot Rec & Publishing
    - Apr: Directory Ref Imp and Test Script Development/Updates
    - May: Identity IG Ballot Rec & Publishing
    - Jun: Identity Ref Imp and Test Script Development/Updates
    - Jul: Implementer Support & Plan/Prep for STU 2 (Tentative Sept 2023 Cycle)
    - Aug: Security IG Ballot Reconciliation & Publishing
    - Sep: Exchange IG - assess use case scenarios for tentative S...
    - Oct: Versioning Connectathon Efforts
    - Nov: Discovery Project 1
    - Dec: Discovery Project 2

- **National**
  - 2023
    - Jan: Directory IG Ballot Rec STU 1 (May 2023 Ballot Cycle)
    - Feb: Directory IG Ballot Rec & Publishing
    - Mar: Directory Ref Imp and Test Script Development/Updates
    - Apr: Identity IG Ballot Rec & Publishing
    - May: Implementer Support & Plan/Prep for STU 2 (Ballot TBD)
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    - Aug: Versioning Connectathon Efforts
    - Sep: Discovery Project 1
    - Oct: Discovery Project 2
    - Nov: Discovery Project 3
    - Dec: Discovery Project 4
2023 – Proposed New Projects Under Consideration

• **Consent Discovery:** Review industry initiatives working on consent, determine what work has been done and where gaps may exist, where multiple efforts could be leveraged to develop a more cohesive infrastructure, and what areas may be well-suited for FAST to address.

• **TEFCA/ Scaling Architecture:** Explore areas where FAST can support/ advance TEFCA FHIR Roadmap efforts.

• **Treatment, Payment, and Operations (TPO) Discovery:** Review current landscape, and identify policy, legal, and technical barriers that currently prevent stakeholders participating in treatment use cases and stakeholders participating in payment and operations use cases from participating in the same data exchange network. Determine where FAST needs to engage in existing efforts or areas that may be well-suited for FAST to address.
## Versioning

**Goal**
FAST needs to determine the longer-term plan for supporting implementers of FAST with multiple versions of IGs in production with test tools, artifacts, and processes.

**Scope**
- Collect objective evidence through Connectathon testing to define the scope of the versioning problem.
- Test versioning using the FAST Directory through the following scenarios:
  - FHIR clients do not request version-specific responses and FHIR server has multiple versions of FHIR and/or multiple versions of an IG.
  - FHIR clients request version-specific responses and FHIR server has multiple versions of FHIR and/or multiple versions of an IG.
- Initial testing during January Connectathon, with incremental progress/improvements building up to May Connectathon.

**Deliverables**
- Connectathon report-outs will include versioning results.
- Recommendations on next steps.

**Assumptions**

**DW/MH**
In order to support FAST work, a Technical Director is being hired.

- Part-time, non-volunteer position responsible for providing Technical Leadership to the HL7 FAST Accelerator.

- Focus on the creation and development of infrastructure (i.e., reference implementations, test tools), technical documentation and testing to support the deployment of FAST working group Implementation guides in a sandbox environment.

- Submit a cover letter, resume, and pricing proposal via e-mail by February 17, 2023, to: Karen Van Hentenryck
  Karenvan@HL7.org

The full RFP can be viewed on the FAST Confluence Home Page or downloaded with this link:
https://confluence.hl7.org/download/attachments/130482368/FAST_Technical%20Director%20RFP.pdf?version=1&modificationDate=1673531233129&api=v2
# Simple Ways to Join FAST’s Work

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<tr>
<td>HL7 Project Page</td>
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<tr>
<td><strong>Hybrid/ Intermediary Exchange</strong></td>
<td><strong>Security for Scalable Registration, Authentication, and Authorization</strong></td>
<td><strong>National Directory</strong></td>
<td><strong>Interoperable Digital Identity &amp; Patient Matching</strong></td>
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<td>Public Meetings paused until future STU 2 work</td>
<td>Public Meetings the 2&lt;sup&gt;nd&lt;/sup&gt; Tuesdays Each Month at 2PM ET <a href="https://global.gotomeeting.com/join/784708421">https://global.gotomeeting.com/join/784708421</a></td>
<td>Public Meetings: Mondays at 3pm ET <a href="https://zoom.us/j/98517334633">https://zoom.us/j/98517334633</a> Thursdays at 11 am ET <a href="https://zoom.us/j/98424232906?pwd=dHV0T2hrN3o1Q1NQVTNHaTVaQURSQT09">https://zoom.us/j/98424232906?pwd=dHV0T2hrN3o1Q1NQVTNHaTVaQURSQT09</a></td>
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Want to learn more about becoming a member of the HL7 FAST FHIR Accelerator? Contact fast@hl7.org

CONTINUE THE CONVERSATION!

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

VISIT FAST PROJECT PAGE
JOIN FAST LISTSERV
JOIN THE LINKEDIN GROUP
Thank you!

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

Have any further questions/suggestions?

Please contact fast@hl7.org