



Canada Health Infoway

Pan-Canadian Projectathon

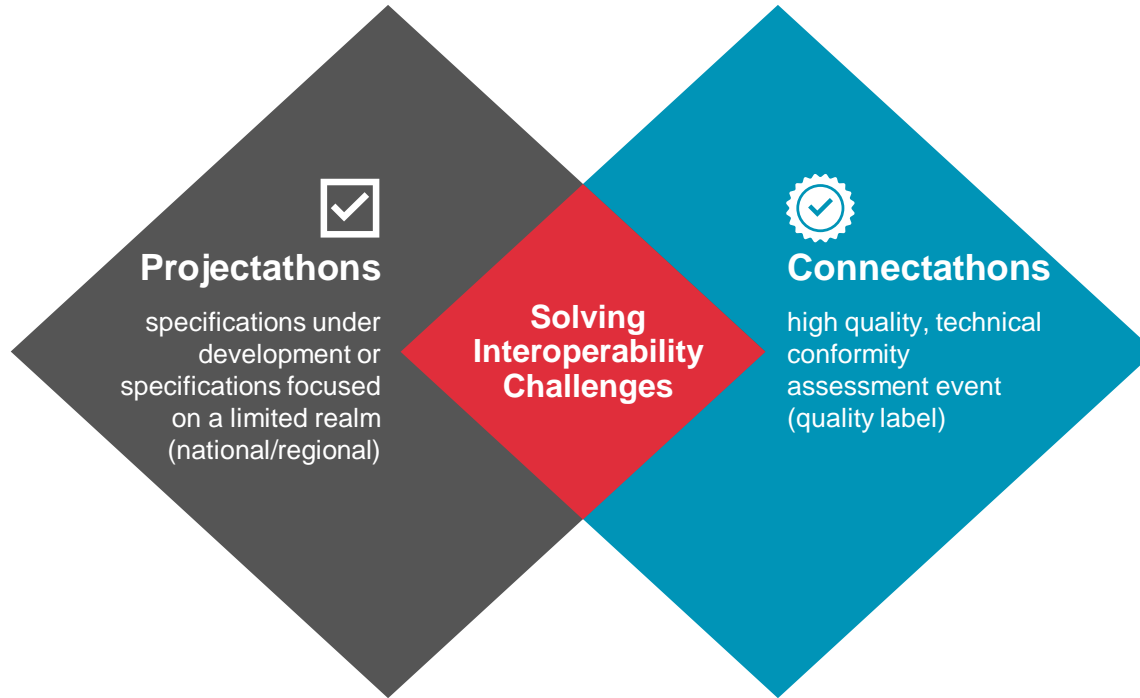
Business VIP Tour

Attila Farkas, Senior Director, Infoway Interoperability Program
Alexander Berler, IHE Catalyst, Strategic Business Development Director
Anne-Gaëlle Bergé, Kereval, Interoperability Expert

Agenda

Projectathons in Canada	15 min
Projectathons & Connectathons: International Lens	8 min
Projectathon 2023	12 min
Testing, Compliance and Conformance Infrastructure	10 min
Q & A	15 min

Solving Interoperability Challenges



Solving Interoperability in Canada

- Solving for the **first** Interoperability
Challenge: Patient Summary

Solving Interoperability Challenges - Core Concepts

IHE International has developed a process that **brings together clinicians, jurisdictions, vendors and, developers** of healthcare information technology (HIT) in an annually recurring four-step process.



1

Clinical, technical and jurisdictional experts **define critical use cases and business requirements** for solving a problem (e.g., Sharing Patient Summaries).



2

Technical experts **create detailed specifications** to address the use cases, selecting/optimizing established standards.



3

Industry implements these standard specifications called Integration Profiles in various HIT systems and solutions.

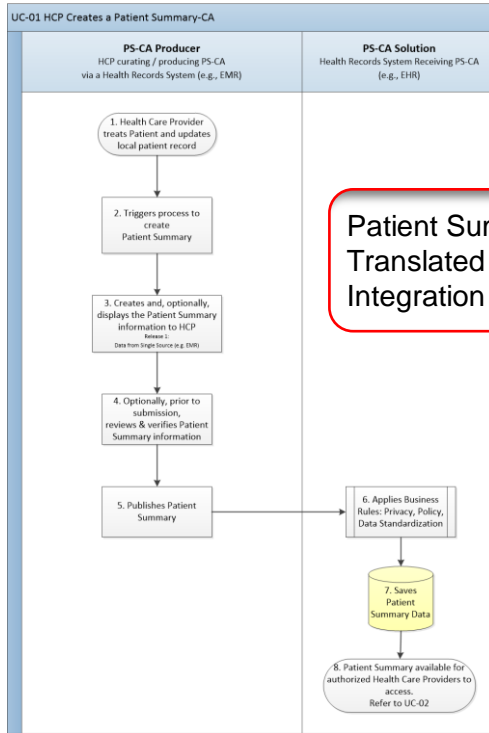



4

Allows vendors to **demonstrate interoperability and conformance**.



Use Cases & Requirements Translated to Solve a Problem




Patient Summary Use Case Translated to Integration Profiles



PS-CA USE CASE 1: HCP Creates PS-CA			MAPPING TO SECTIONS FROM THIS AND REFERENCED INTEROPERABILITY SPECIFICATIONS		
USE CASE ACTOR	SERVICE SUPPORTED	OPT	TECHNICAL ACTOR	OPT	PROFILE / STANDARD
PS-CA Producer	Authenticate User	O	Client (e.g., EMR)	O	Internet User Authorization (IUA)
	Identify Patient	O	Client (e.g., EMR)	O	Use Existing Standards Employed by the Clinical System
		O	Patient Demographic Consumer	O	PDQm
	Retrieve clinical data from local data sources (Patient Identifier)	R	Client (e.g., EMR)	R	Use Existing Standards Employed by the Clinical System
	Assemble and review Patient Summary	R	Client (e.g., EMR)	R	Use Existing Standards Employed by the Clinical System
	Update Current Valuesets and ConceptMaps	O	Client (e.g., EMR)	O	SVCm
	Omit or Mask Data based on Jurisdictional Policy	O	Client (e.g., EMR)	O	Jurisdictional Requirement
	Save PS-CA to Document Repository	R	Client (e.g., EMR)	R	Use Existing Standards Employed by the Clinical System
R		Data Source	R	CA:FeX	
Document Repository (Central)*	Save PS-CA to Document Repository	R	Data Recipient	R	CA:FeX
Central Infrastructure	Identify Patient	O	Patient Identity Registry	O	PMIR



Creating Specifications with Established Standards

MAPPING TO SECTIONS FROM THIS AND REFERENCED INTEROPERABILITY SPECIFICATIONS		
TECHNICAL ACTOR	OPT	PROFILE / STANDARD
Client (e.g., EMR)	O	Internet User Authorization (IUA)
Client (e.g., EMR)	O	Use Existing Standards Employed by the Clinical System
Patient Demographic Consumer	O	PDQm
Client (e.g., EMR)	R	Use Existing Standards Employed by the Clinical System
Client (e.g., EMR)	R	Use Existing Standards Employed by the Clinical System
Client (e.g., EMR)	O	SYCM
Client (e.g., EMR)	O	Jurisdictional Requirement
Client (e.g., EMR)	R	Use Existing Standards Employed by the Clinical System
Data Source	R	CA:FeX
Data Recipient	R	CA:FeX
Patient Identity Registry	O	PMIR

Existing, internationally-developed solution for **User Authorization (IUA)**

Existing, international profile, developed to solve for **consistent patient demographics query (PDQm)**

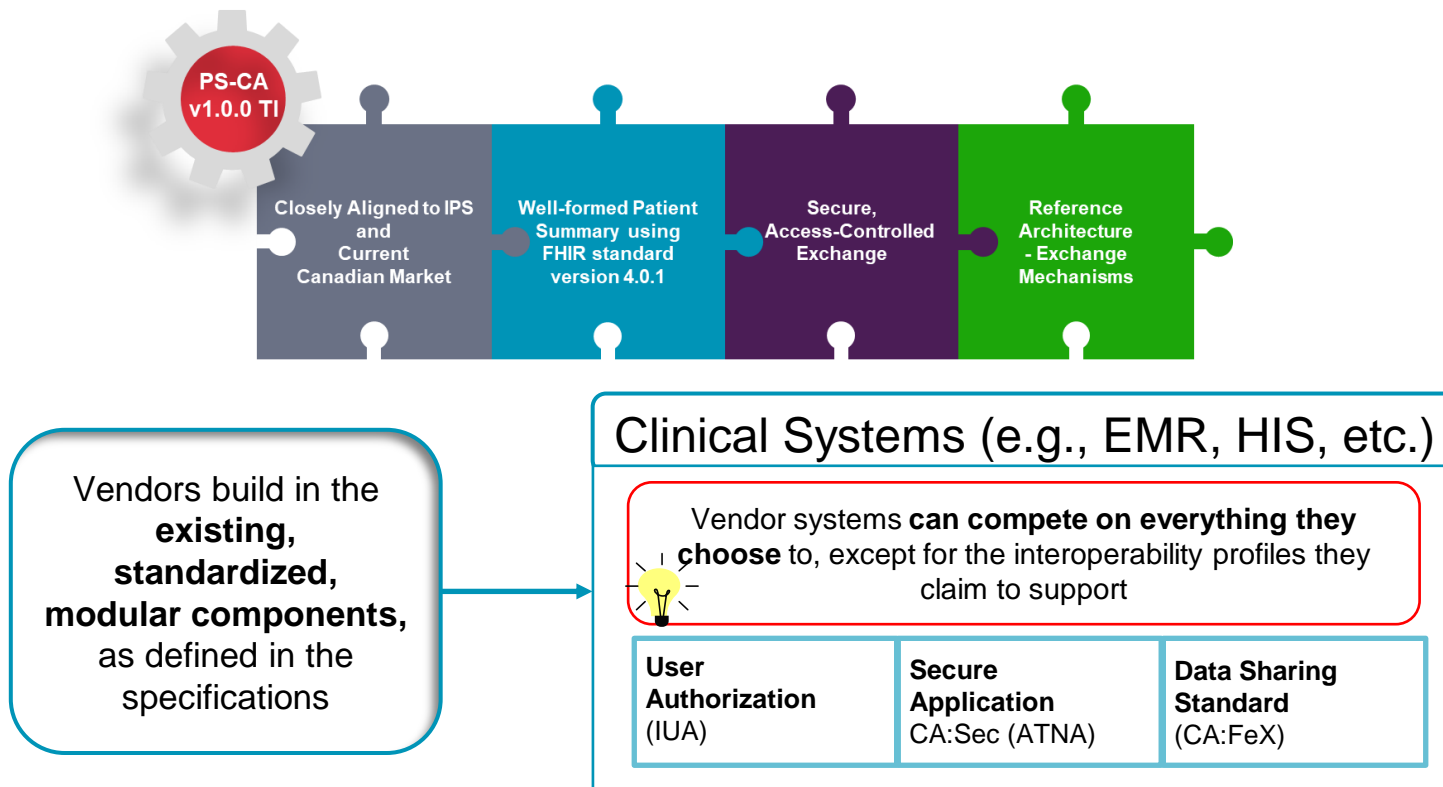
CA:FeX: Canadian developed integration profile to solve for a **standardized way to exchange FHIR documents** (e.g., Patient Summary)

Optimizing the development process with modular technology!

These Profiles can implement very different protocols and technologies

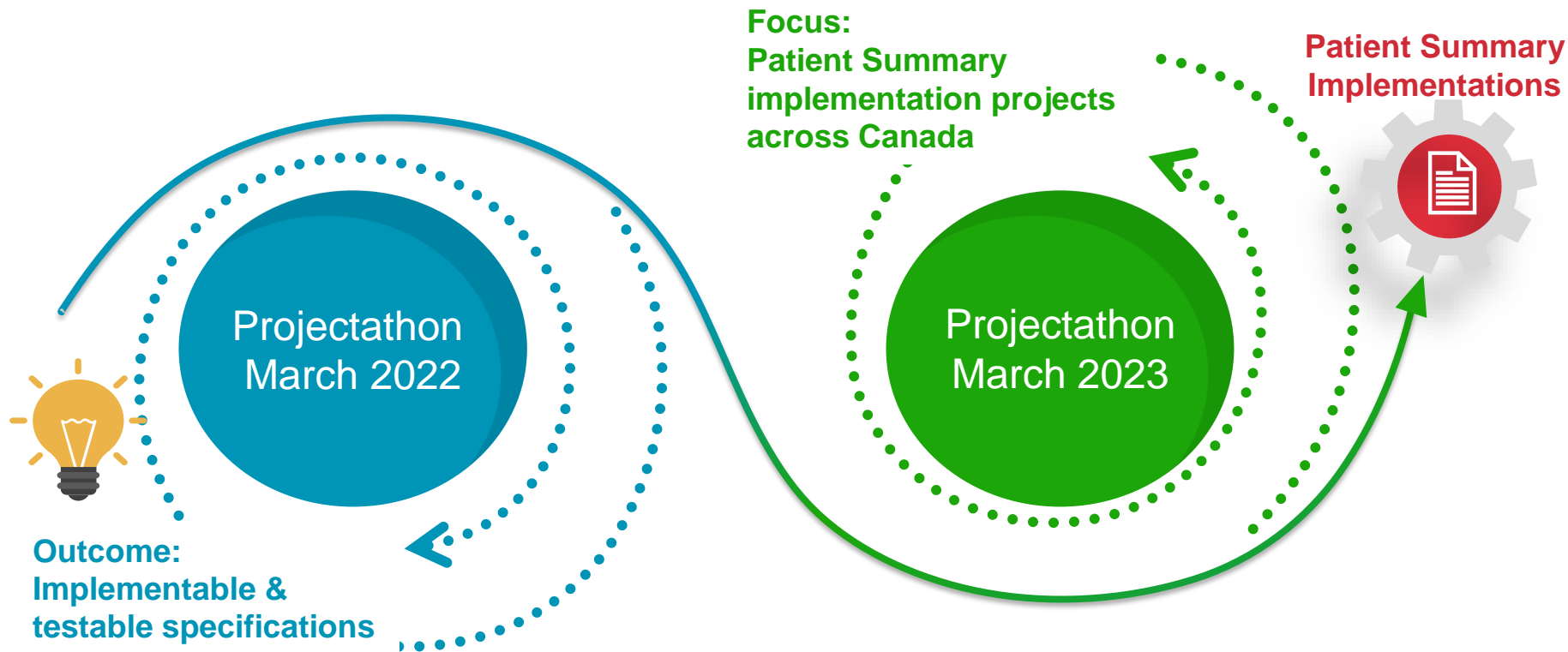


Implementing the Standards into Clinical Systems





Demonstrating Interoperability: Projectathon 2022/23



Vendors demonstrate interoperability and conformance to the specification for the Patient Summary by testing their systems

Projectathons & Connectathons: International Lens

The background features a white field on the left and a dark blue field on the right, separated by a curved white boundary. A red triangular shape points from the bottom right towards the center.

IHE Connectathon – Testing Interoperability

- IHE Connectathon is part of the IHE technical framework development process:

Provides a unique opportunity for vendors to test the interoperability of their products in a structured environment with peer vendors.

Author can receive quick feedback on their specifications

- Participants test against multiple vendors using real-world clinical scenarios following specifications from IHE Profiles.
- Tests are overseen by a **neutral** team of volunteers: the monitors
- Results are published by IHE International

What is a Projectathon?

- A Projectathon is a peer-to-peer testing event that is organized as a Connectathon[®] where the interoperability specifications that are tested are those of a national, regional or other project.
- Those specifications are localizations of IHE integration profiles that take into account also additional local specifications and constraints
- Projectathons usually incorporate multi-actors and multi-transactions sequences that map real life health information exchange
- Projectathons use the same tools as those used in Connectathons[®]
- In Europe, these events are integrated into the national governance where vendors pay to participate and need to pre-qualify during the pre-Projectathon phase

Connectathon® - Projectathon Differences



	Connectathon [®]	Projectathon
Governance	Under the supervision of IHE regional/national deployment.	Under the supervision of the project (the lead organisation).
Rules for passing	IHE test methods are used. Criteria are developed in the IHE Test Plan.	Test methods are customized to fit the project specifications. Criteria are developed by the project.
Publication of the results	IHE Connectathon [®] Results.	Published by the project (the lead organisation).

Why do Projectathons?

- Enable co-creation of interoperability specifications at a national, regional or project level
 - ✓ country level examples: Switzerland, Ireland, Greece, France, Canada
 - ✓ regional level example: Abrumet, Veneto, Friuli Venezia Giulia
 - ✓ project level example: epSOS, UNICOM, eHDSI, WHO DDCC
- Test and refine the quality of interoperability specifications
- Create a reference implementation before production or certification
- Establish Digital health ecosystems and communities of practice

Examples of Projectathons



Gazelle Instances (2022)



Used by 2 international organizations, 11 national & 3 regional ehealth programs, 5 vendors internal labs, 5 IHE instances.

1. Arsenal.IT (Italy Venice Region)
2. Abrumet-Brussels eHealth (Belgium)
3. Insiel SPA (Italy)
4. Canada Health Infoway
5. GE
6. Agfa
7. InteropLAB (NL)
8. Technikum Wien (Austria)
9. IHE USA
10. IHE-Europe
11. IHE China
12. IHE Japan
13. Agence eSanté-Luxembourg
14. InterAMC France
15. eHealth Finland
16. eHealthSuisse & Federal MoH
17. EU DG Santé-European Cross Border
18. Sequoia-USA
19. EFS-French Blood Transfusion-France
20. Saudi Arabia eHealth: SHC-KSA
21. Ireland eHealth (HSE)
22. French ehealth (ANS)
23. Gabon MoH
24. Greece MoH
25. WHO Clearinghouse
26. CENS-IDB



Canada Health Infoway
Inforoute Santé du Canada



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
Υπουργείο Υγείας



IHE USA
CONNECTING THE WORLD.



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra



IHE EUROPE
Integrating the Healthcare Enterprise



AGENCE eSanté
LUXEMBOURG
Agence nationale des informations partagées dans le domaine de la santé

ehealthsuisse
Koordinationsorgan Bund-Kantone
Organe de coordination Confédération-cantons
Organo di coordinamento Confederazione-Cantoni



IHE China
www.ihe-c.org



AGFA HealthCare
Agfa



EFS
ÉTABLISSEMENT FRANÇAIS DU SANG
Du donneur aux patients

MEDICAL PHIT



Canada Health Infoway

Projectathon 2023

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9 Vendors Participating in the 2023 Projectathon!





What is being tested at the 2023 Projectathon?

Vendors will be testing the Patient Summary in two key areas:

- **Testing for Document Format and Content** - testing using a combination of test data and validation tooling for the PS-CA and PS-ON specifications.
- **Testing Secure, Exchange Transactions** - testing for differing implementation patterns:
 - Test cases that test individual actor capabilities in isolation
 - Complex test cases that group individual actor capabilities with other relevant actor capabilities to simulate real-world scenarios.



How is the Testing Performed?



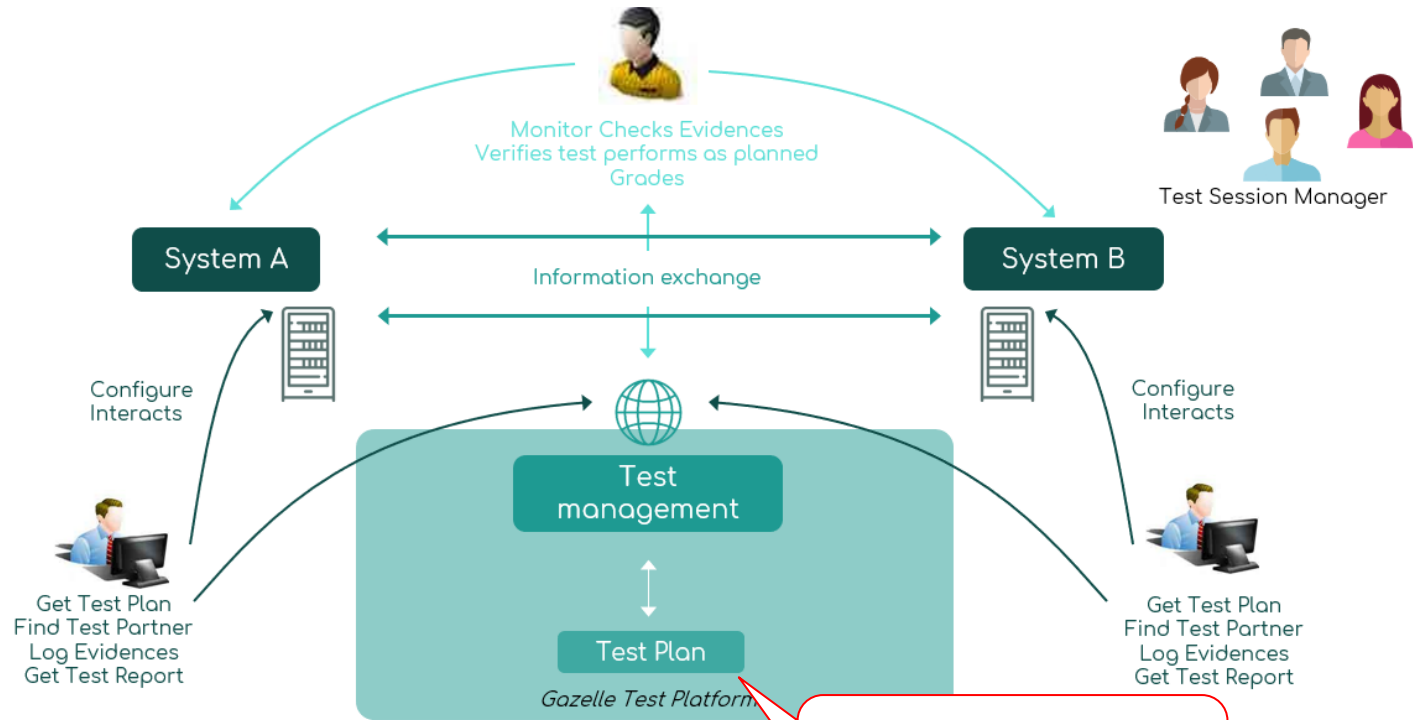
A screenshot of the Gazelle web application's 'Tests List' page. The page has a dark blue header with 'Gazelle' on the left and 'Create an account', 'Sign-in', and 'CAS Sign-in' on the right. Below the header, there's a 'Tests List' section with a search criteria filter on the left and a table of test results below. The search criteria filter includes dropdowns for Domain, Integration profile, Transaction, Test Type, Test Peer Type, Test Last modifier, and Author. A red callout box with a white background and a red border points to the 'Transaction' dropdown, which is currently set to '(1) IT-43 - Mobile Patient Identity Cross-Identif...'. The callout box contains the text: 'A compendium of international and national profiles and transactions'. The table below shows a single test entry with columns for Keyword, Version, Status, Last modifier, Last changed, and Action. The entry is 'CHPIXM_Mobile_Id_Feed&PIXm_Query' with version 'EPR Biem 2021' and status 'ready'. The last modifier is 'rhuofman' and the last changed time is '5/17/21 8:02:55 AM'. There is also a 'Results per page' dropdown set to 20.

Gazelle is a suite of tools developed by IHE International and other collaborators to bring Integration Profiles to life.

It provides users an opportunity to validate the role they will be playing in the ecosystem and ensure they are able to satisfy the interoperability requirements.

Gazelle offers several self-serve, self-test and conformance assessment opportunities for jurisdictions and vendors to test alignment to Integration Profiles

Conceptual Model of a Testing Event



Test plan can be used for development support or certification purposes

Gazelle Test Management

- Support the testing events from the modeling of the interoperability specifications to the evaluation of the systems based on their test results.

Dashboard to monitor the ongoing session

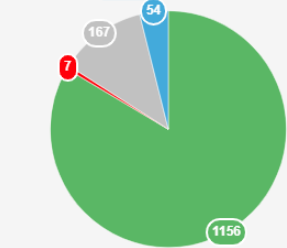


Overall

There is a total of 1384 test runs

Statuses of test runs

Verified Failed In progress
To be Verified

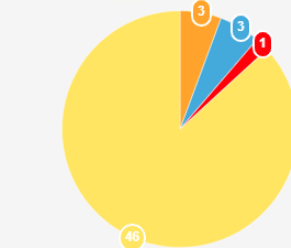


Remaining amount of work

There is a total of 54 test runs to be reviewed by a monitor

To be verified test runs

To be verified Claimed Critical
Partially verified



Left over

7 test runs have been awaiting a review for more than 24 hours

Pending test runs

>24 hours >36 hours >48 hours



Test case execution

TI-53

Aborted

Test CA:FeX-2A: Search Data

- Test Instance Meta Data
- Description
- Test Participants
- Test Instance Steps
- Files
- Chat Room

Report an issue about this test

Test Instance Meta Data TI-53

Test Name: Search Against FHIR Assembled Documents Repository

Test Keyword: CA:FeX-2A: Search Data

Test instance permanent link: 53

Test current status: Aborted

Started: 3/21/22 5:12:39 PM

Last changed: 3/21/22 9:12:03 PM

Testing Session : PAN-Canadian-Projectathon 2022

Test Description

Pre-requisites

Please make sure you execute the capability statement test case <https://pancanadianio.ca/gazelle/test.seam?id=149>. The CapabilityStatement Resource helps others at the projectathon (test partners, monitors) understand the implementation of the FHIR-based actors. If your test system implements FHIR Server capabilities, it is expected to respond to a FHIR Capability Statement request and make your CapabilityStatement available to test partners and monitors.

Special Instructions

Choosing test partners:

In this test, the CA:FeX Data Consumer and Data Responder support the transaction CA:FeX-2A.

When choosing partners for this test:

As a general rule, the CA:FeX Data Consumer and CA:FeX Data Responder must be from different companies. However, in special cases, it is OK for the CA:FeX Data Responder and the CA:FeX Data Consumer to be from the same company. Gazelle normally prohibits this, so you will need to seek help from a Connectathon Technical Manager if you want to use this setup for your testing.

Description

Search Data [CA:FeX-2A]

This message involves a query request by a Data Consumer to find FHIR documents using parameterized queries.

Test Participants

Participating Systems

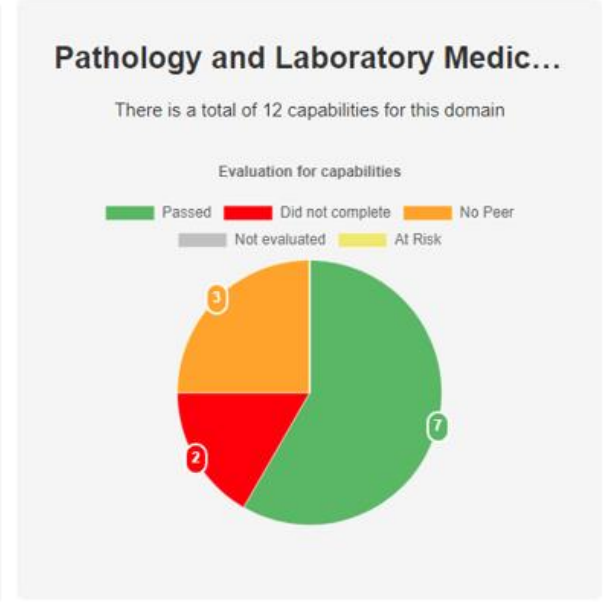
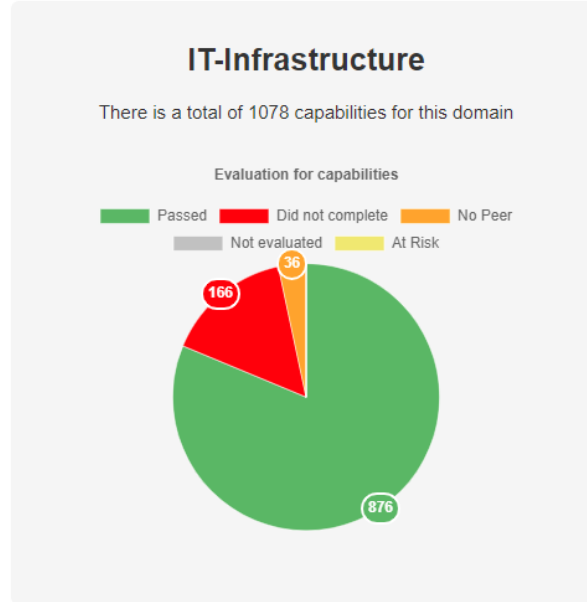
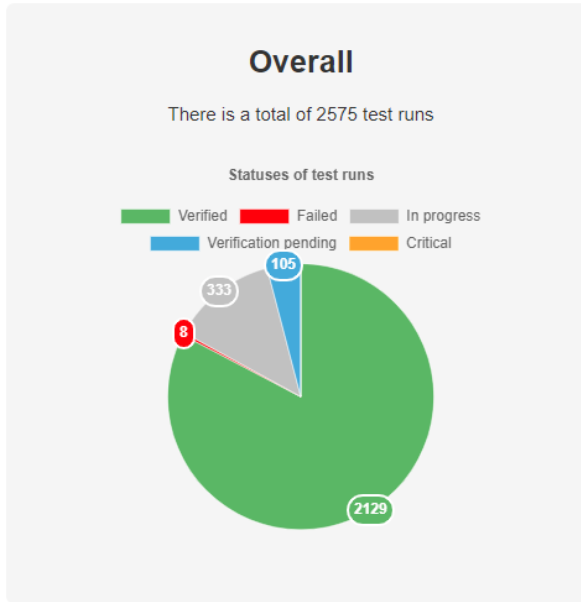
System keyword	Organization Name	System manager	Role in test	Integration profile	Actor	Table
GATEWAY_Cerner_2022	Oracle	jdiaz	CA:FeX - Data Consumer	CA:FeX	CA:FeX - Consumer	
OTHER_INFOWAY	INFOWAY	TOhu	CA:FeX - Data Responder	CA:FeX	CA:FeX - Responder	

Test Instance Steps

Step	Trans.	Trans. - Message Type	Opt.	Sending Actor	Receiving Actor	Status	Validation Status
		- Instructions	R	GATEWAY_Cerner_2022 - CA:FeX - Consumer	GATEWAY_Cerner_2022 - CA:FeX - Consumer	✓	
		Desc: Please see notes in the Special Instructions above					
10		Logs: No comment, file or URL				✗	✓ ▶▶
		Upload a file (click or drop)					
		Proxy messages					
		- Instructions	R	GATEWAY_Cerner_2022 - CA:FeX - Consumer	GATEWAY_Cerner_2022 - CA:FeX - Consumer	✓	
		Desc: If the Gazelle Proxy is available, we encourage you to use it for this test. Capturing the queries and responses between the partners will make it easier for the partners to troubleshoot problems and for monitors to evaluate the results of the test steps.					
20		Logs: No comment, file or URL				✗	✓ ▶▶
		Upload a file (click or drop)					
		Proxy messages					
		CA:FeX-2A - HTTP GET or HTTP POST	R	GATEWAY_Cerner_2022 - CA:FeX - Consumer	OTHER_INFOWAY - CA:FeX - Responder	✓	
		Desc: Send a query request to search against FHIR assembled documents repository using parameterized queries. The request is received by a Data Recipient which returns a Bundle containing the matching search parameters.					
30		Logs: No comment, file or URL				✗	✓ ▶▶
		Upload a file (click or drop)					
		Proxy messages					
		- Instructions	O	GATEWAY_Cerner_2022 - CA:FeX - Consumer	GATEWAY_Cerner_2022 - CA:FeX - Consumer	✓	
		Desc: Please see notes in the Evaluation section above					
40		Logs: No comment, file or URL				✗	✓ ▶▶
		Upload a file (click or drop)					
		Proxy messages					
Step	Trans.	Trans.	Opt.	Sending Actor	Receiving Actor	Status	Validation Status

Test current status : Aborted

Overview of the outcome of the session for managers

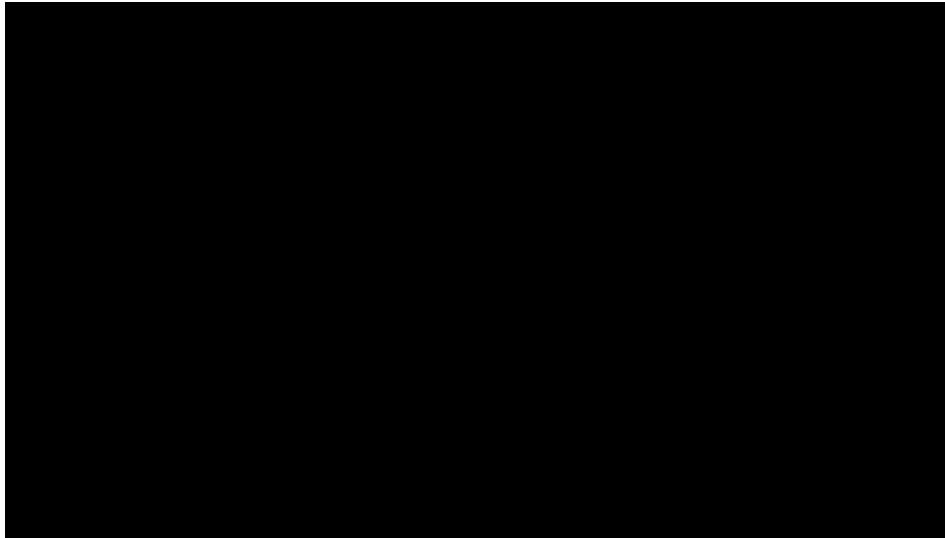


This information is fed into a report for each vendor to reflect their results.

IHE Connectathon in practice

SmartHealth serie on Euronews:

How is the EU healthcare sector preparing for the digital revolution?



IHE-Europe Connectathon in Switzerland, September 2022

Summary

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Our Journey – In Summary



Infoway has worked alongside provinces, territories, and other key stakeholders to lay the foundation for a connected system.



Extensive consultations with jurisdictions, clinicians, patients and industry identified patient summaries as an interoperability priority area.



Embarked on a mission, along with 5 provinces, to develop a pan-Canadian Patient Summary Specification (PS-CA) that would help solve several key health care challenges.



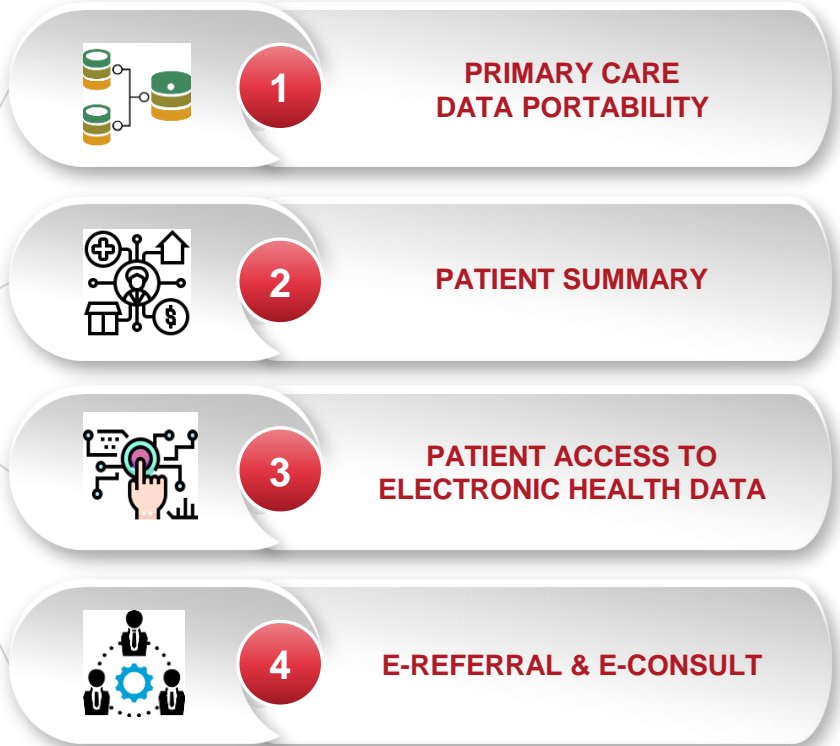
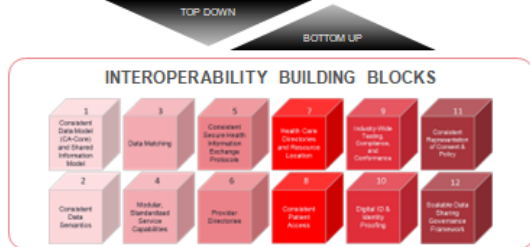
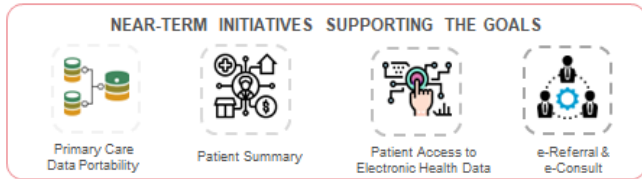
Tested the PS-CA at prototyping events called Projectathons - an international practice used for testing data standardization and interoperability.



Create a world class interoperable system that Canadians deserve: one which puts them in control of how they receive care and empowers them to access and use their health record as they deem appropriate

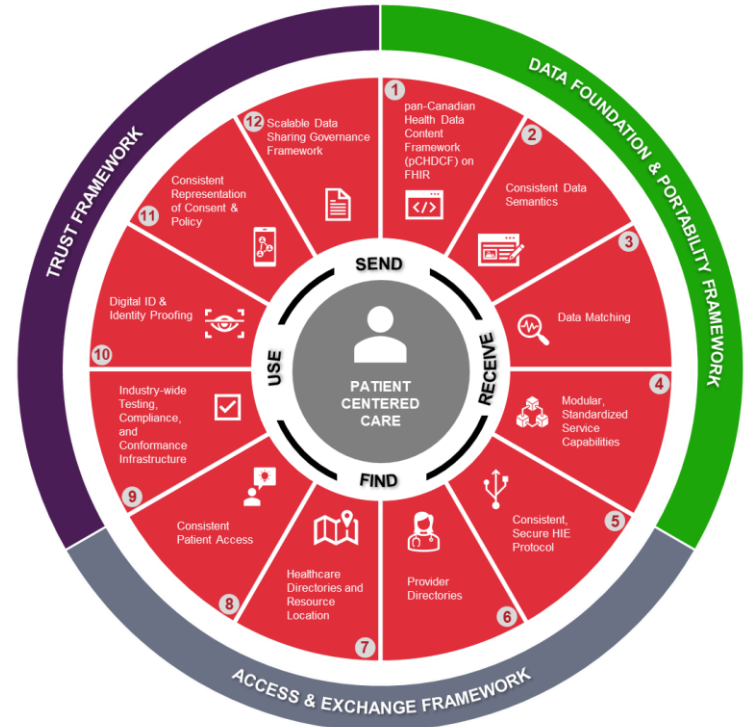
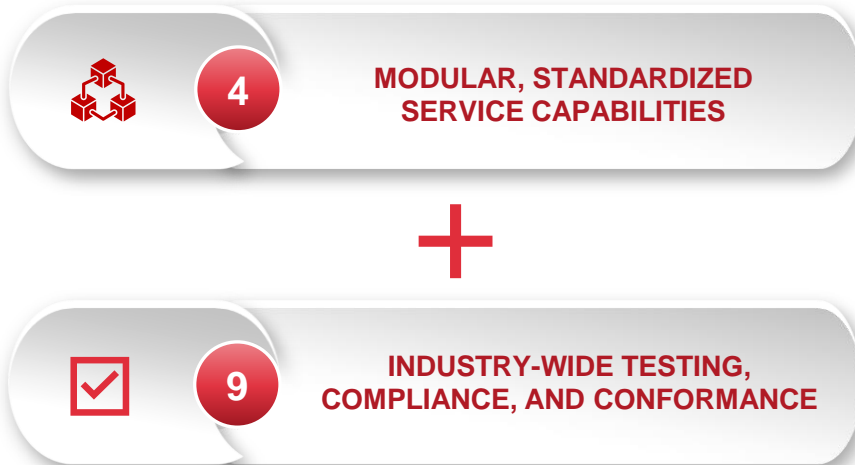
**WE ARE
HERE**

pan-Canadian Interoperability Strategy & Shared Roadmap



Supporting a World-Class Interoperable System

Interoperability Roadmap Building Blocks



Call to Action



Please Join Us!

**Collaborate, Participate and Adopt
Modular-Standardized Service Capabilities,**
leading to readiness for certification programs
conducted through
**Industry-wide Testing, Compliance, and
Conformance.**

Questions & Answers



To learn more, join us on March 23 for the Projectathon Symposia Day!

Four sessions:

- 1) International Interoperability Experience: Switzerland
- 2) Primer to the pan-Canadian Interoperability Strategy & Shared Roadmap
- 3) Canadian FHIR Exchange (CA:FeX) 2.0
- 4) Clinician Session: Achieving pan-Canadian alignment on data elements

*For meeting invites, email:
interoperability@infoway-inforoute.ca*



Canada Health Infoway

Thank you!

For questions please contact:

Interoperability@infoway-inforoute.ca

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