Test Cases: Projectathon 2023

Welcome to the Projectathon 2023 test case information page!

NOTE: The Projectathon 2023 event has been completed. The final report is available here.

On this page, you will find:

- PS-CA Testing Approach
    - 1. PS-CA Document Format and Content
        - Testing the Document Format and Content
    - 2. PS-CA Secure, Exchange Transactions
        - Testing the Secure, Exchange Transactions
- Test Cases Overview
    - What will be Tested (Implementation Guides & IHE Profiles)
        - Test Cases for Document Format and Content
        - Test Cases for Secure, Exchange Transactions
    - Where to Find the Test Cases
    - When to Run the Test Cases

PS-CA Testing Approach

The 2023 Projectathon is dedicated to supporting Patient Summary implementation projects across Canada. Testing will focus on validating that the vendor systems have the capabilities needed to securely exchange well-formed Patient Summary information with other systems. Vendors will have an opportunity to test and demonstrate these capabilities in two distinct areas of the PS-CA specification:

1. **PS-CA Document format and content** – ensuring that the Patient Summary document is structured in the expected format and that it contains the required information using the correct data types and valuesets, where specific valuesets are defined as required in the pan-Canadian Patient Summary specifications (PS-CA v1.0.0 TI).
2. **PS-CA Secure, exchange transactions** - ensuring that the system(s) can securely exchange Patient Summary information using the recommended secure exchange methods of the FHIR summary document as presented in the Reference Architecture (RA v0.1.1 DFT), referenced by the PS-CA and CA:FeX specifications.

1. PS-CA Document Format and Content

There will be a set of test cases focused on ensuring that the Patient Summary document is structured in the expected format and that it contains the required information using the correct data types and valuesets, where specific valuesets are defined as required in the PS-CA.

An exciting new feature at this Projectathon will be the ability to validate the national (PS-CA) and harmonized provincial Patient Summary specifications from Ontario (PS-ON).

- In addition to testing the PS-CA, test cases will validate the PS-ON specifications, which are very closely aligned to the PS-CA and should be supported by minimal configuration of capability in the vendor systems. The configuration details are provided in the Data Configuration Guide available on the Tools and Training page.
- The test cases will highlight where configuration is needed and test that the configuration is applied properly, based on claimed vendor conformance.
- The Projectathon will offer an assessment of the Patient Summary document against the ON implementation guidance as represented in the PS-ON specifications, in addition to the PS-CA.

Testing the Document Format and Content

Testing supports for the Patient Summary document format and content validation will be provided using a combination of test cases, test data sets, and tools (see table **Test Cases for Document Format and Content** below for more information). While test cases reside in Gazelle, they may refer to data sets which will be available on the Test Data Sets page. The data sets will be available in an Excel spreadsheet format and include the following:

- Clinical Data Set for PS-CA: a clinical data set that represents minimum data requirements for PS-CA.
- Clinical Data Set for PS-ON: a clinical data set that represents minimum data requirements for PS-ON.

2. PS-CA Secure, Exchange Transactions

This area of testing will focus on validating the recommended secure exchange methods of the FHIR summary document as presented in the Reference Architecture (RA v0.1.1 DFT), referenced by the PS-CA and CA:FeX specifications. Under ideal conditions, depending on the number of participating vendors and their system capabilities, tests will offer a high degree of coverage for all profiles.

There are two categories of integration profiles (see table **Test Cases for Secure, Exchange Transactions** for more information):

1. Core integration profiles: CA:FeX and MHD
2. Supporting integration profiles: CA:Sec, CA:Aud (Canadian implementation guidance for ATNA), CT, and IUA

Implementation patterns of these integration profiles may differ from jurisdiction to jurisdiction and information exchange channels may vary in terms of their security footprint. Therefore, the Projectathon test cases have been organized into two categories:

- Category 1: Test cases that test **individual actor capabilities in isolation.** E.g., how a system can handle encrypted transactions, how a system can handle a CA:FeX transaction, how a system can handle an OAuth 2 token exchange, etc.
- Category 2: Complex test cases that **group individual actor capabilities with other relevant actor capabilities to simulate real world scenarios.** E.g., how a patient summary creator system can submit the document to a repository by using an OAuth 2 integration, etc.

Testing the Secure, Exchange Transactions

Testing supports for the Patient Summary secure, exchange transactions will be provided using a combination of test cases and tools (see Table **Test Cases for Secure, Exchange Transactions** below for more information).

Test Cases Overview

The purpose of this overview is to provide an understanding of:

- What will be tested:
    - integration profiles included in the test cases
    - descriptions and purpose of test cases
    - actors and transactions involved in the test cases
    - types of test cases and supporting tools
- Where to find the test cases
- When to run the test cases

What will be Tested (Implementation Guides & IHE Profiles)

The following table describes Implementation Guides being tested, purpose of each, profiles involved and types of tests and supporting tools. To learn more about the IHE Profiles, be sure to watch the information videos included in the Description sections.

By IG	IG Description and Purpose of Test Cases	IHE Profiles Involved	Test Case Peer Type & Supporting Tools*
PS-CA	The Projectathon 2023 will focus on interoperability demonstrations based on the pan-Canadian Patient Summary (PS-CA v1.0.0 TI) and the associated pan-Canadian FHIR Exchange (CA:FeX v1.0.0 TI) specifications, both ready for trial implementation. The PS-CA specification defines the building blocks to create and share patient summaries. The purpose of the test cases for the PS-CA will ensure that the Patient Summary is formatted and contains the required content according to the PS-CA Implementation Guide. A PS-CA clinical data set will be provided to support these test cases. Refer to the Test Data Sets for more details. To read more about the PS-CA, go here.	• CA:FeX • MHD	No-Peer (PS-CA Renderer, FHIR Validator, CA:FeX Simulators, and MHD Simulators) Peer-to-Peer (Gazelle platform)
PS-AB	Alberta is in the process of developing implementation details to provide to their implementers. **Update**: The PS-AB will not be tested at the Projectathon 2023. Vendors are being requested to focus on the PS-CA. At such time that the PS-AB is ready, it is expected that minimal configuration of capability in the vendor systems will be needed. To read more about the PS-AB, go here.	• N/A	N/A
PS-ON	The Ontario Patient Summary is based on the International Patient Summary standard and was developed in collaboration with Canada Health Infoway and other jurisdictions and with preliminary input from primary care clinicians and solution vendors. The Ontario Patient Summary (PS-ON) Standard aligns, where applicable, to the International Patient Summary (IPS) HL7 FHIR standard, the Pan-Canadian Patient Summary (PS-CA) Standard (under concurrent development), and the Canadian Baseline (CA-Baseline). The purpose of the test cases for PS-ON will ensure that the Patient Summary is formatted and contains the required content according to the PS-ON implementation guide. In support of these test cases, the following documents will be provided: • a PS-ON clinical data set, available here: Test Data Sets • a configuration document outlining the differences between the PS-CA and the PS-ON, available here: Test Tools and Training To read more about the PS-ON, go here.	• CA:FeX • MHD	No-Peer (PS-CA Renderer, FHIR Validator, CA:FeX Simulators, and MHD Simulators) Peer-to-Peer (Gazelle platform)

*To learn more about the Supporting Tools, go here.

The following table describes the integration profiles being tested, purpose of each, actors involved and types of tests and supporting tools.

Test Cases for Secure, Exchange Transactions

By IHE Profile	Profile Description and Purpose of Test Cases	Actors Involved	Test Case Peer Type & Supporting Tools*
CA: FeX	The pan-Canadian FHIR Exchange (CA:FeX) is an implementable, testable interoperability specification based on HL7 FHIR Implementation Guides, that defines building blocks to enable creating, consuming and sharing clinical data via FHIR RESTful exchange patterns. The purpose of testing CA:FeX is to ensure systems have the ability to create, search and retrieve FHIR documents (e.g., Patient Summary) over the internet in a secure manner. Test cases for CA:FeX will include groupings with other profiles to ensure that patient information is shared securely over the internet (CA:Sec), meets audit requirements (CA:Aud), contains a consistent time (CT) with a median error less than 1 second and is accessed only by authorized users (IUA). To learn more about CA:FeX, you may watch this short video and review the presentation material here: CA:FeX Profile Information Video (mp4), CA:FeX Profile Information Presentation Deck (PDF) To read more technical information about CA:FeX, go here.	• Data Source • Data Consumer • Data Recipient • Data Responder	No-Peer (CA:FeX Client & Server Simulator) Peer-to-Peer (Gazelle platform)
MHD	The Mobile Access to Health Documents (MHD) Profile defines one standardized interface to health document sharing. This profile is applicable to systems where needs are simple, such as pulling the latest summary for display. The purpose of testing MHD is to ensure systems have the ability to publish and access (i.e. query/retrieve) FHIR documents (e.g., Patient Summary) over the internet in a secure manner. Test cases for MHD will include groupings with other profiles to ensure that patient information is shared securely over the internet (CA:Sec), meets audit requirements (CA:Aud), contains a consistent time (CT) with a median error less than 1 second and is accessed only by authorized users (IUA). To learn more about MHD, you may watch this short video and review the presentation material here: MHD Profile Information Video (mp4), MHD Profile Information Presentation Deck (PDF) To read more technical information about MHD, go here.	• Document Source • Document Recipient • Document Consumer • Document Responder	No-Peer (MHD Client & Server Simulator) Peer-to-Peer (Gazelle platform)
IUA	The Internet User Authorization (IUA) is an interoperability profile that provides an authorization profile for the HTTP RESTful transactions. Being authorized means that the user, patient, or provider has legitimate access to this HTTP RESTful service. The authorization includes identifying the user and the application that is making the request to the HTTP RESTful server, so that the server can make further access control decisions. The purpose of testing IUA in these test cases is to ensure that the person (e.g., patient, provider, etc.) and application requesting access to the FHIR document (e.g., Patient Summary) are authorized to have access. To learn more about IUA, you may watch this short video and review the presentation material here: IUA Profile Information Video (mp4), IUA Profile Information Presentation Deck (PDF) To learn more about IUA, go here.	• Authorization Client • Resource Server • Authorization Server	No-Peer (IUA Simulator)
CA: Sec	The CA:Sec (Canadian Network Security) Implementation Guidance specifies the foundational elements needed to securely execute transactions between two systems. It is based on the ATNA profile and aims to bring improvements via loose coupling, and high cohesion, with focus on secure communication. The purpose of testing CA:Sec in these test cases is to ensure that the systems exchanging FHIR documents are able to meet the requirements of secure exchange between systems. To learn more about CA:Sec, you may watch this short video and review the presentation material here: CA:Sec Profile Information Video (mp4), CA:Sec Profile Information Presentation Deck (PDF) To read more technical information about CA:Sec, go here.	• Secure Application	No-Peer (Gazelle Security Suite, TLS Server and Client Simulators)
CA: Aud	The CA:Aud (Canadian Audit Trail) Implementation Guidance specifies the foundational elements needed to perform event logging for auditing purposes. It is based on the ATNA profile and aims to bring improvements via loose coupling, and high cohesion, with focus on auditing using modern formats and technologies. CA:Aud defines capabilities to record, store and retrieve audit messages in FHIR format using RESTful operations and other (IHE or non-IHE) methods. The purpose of testing CA:Aud in these test cases is to ensure that the systems exchanging FHIR documents (e.g., Patient Summary) are able to meet the requirements of recording, storing and retrieving audit messages. To learn more about CA:Aud, you may watch this short video and review the presentation material here: CA:Aud Profile Information Video (mp4), CA:Aud Profile Information Presentation Deck (PDF) To read more technical information about CA:Aud, go here.	• Audit Creator • Audit Record Repository (ARR) • Audit Record Forwarder • Audit Consumer	No-Peer (Tested as part of CA:FeX and MHD)

CT	The Consistent Time Integration Profile (CT) provides a means to ensure that the system clocks and time stamps of the many computers in a network are well synchronized. The purpose of testing CT in these use cases is to ensure the systems exchanging FHIR documents (e.g., Patient Summary) are synchronized with a median error less than 1 second. This provides systems with the ability to properly manage the information and provides clarity for users on the timeline of when the information was recorded. To learn more about CT, you may watch this short video and review the presentation material here: CT Profile Information Video (mp4), CT Profile Information Presentation Deck (PDF) To read more technical information about CT, go here.	• Time Client • Time Server	No-Peer (Scripts provided within the test cases)

*To learn more about the Supporting Tools, go here.

Where to Find the Test Cases

All Projectathon 2023 test cases will reside in the Gazelle platform, the primary testing tool where vendors will test and prove that their products align with the published specifications. It is within the Gazelle platform where you will find the details for each test case, including the following information:

- name of the profile(s) and transactions being tested (e.g., CA:FeX, CT, IUA)
- actors involved in the test case
- type of test:
    - Peer-to-Peer: tests between systems
    - No-Peer: tests between a system and one of the supporting tools (e.g., CA:FeX Client Simulator)
- indicator to identify if the test case is mandatory or optional.
- description of the test case with step-by-step instructions detailing how to run the test case

In addition to the Gazelle platform, a suite of testing tools, including validators and simulators, will be available for the No-Peer tests during the pre-Projectathon testing and Projectathon event testing. For more information about the testing tools, please refer to the Tools and Training page.

When to Run the Test Cases

The Projectathon includes two phases of testing: Pre-Projectathon testing and Projectathon testing. (Refer to the Registration and Schedule page for details about the timing of each phase.) The tables above, in section **What will be Tested**, categorize test cases by "Peer Type" of No-Peer tests and Peer-to-Peer tests.

- Pre-Projectathon testing: This phase will take place prior to the Projectathon event and include No-Peer tests (i.e., tests run between your system and one of the supporting tools). In Gazelle, all of the Pre-Projectathon tests for the Actors that you registered for will be listed.
- Projectathon testing: This phase will take place during the Projectathon event and include both No-Peer tests and Peer-to-Peer tests (i.e., tests between your system and another system). Note that prior to the Projectathon, connectivity testing must be completed (Refer to the Registration and Schedule page for more information about how and when to complete connectivity testing).