eHealth Exchange™

Smoke Test Cases

For eHealth Exchange Participant and Validated Product Testing

eHealth Exchange Testing Program Overview

The scope of the eHealth Exchange Testing Program is limited to the Specifications; the information outlined in the Validation Plan and related Test Materials adopted by the Coordinating Committee, collectively called "Performance and Service Specifications".

Changes to the profiles, Specifications, Validation Plan and Test Materials may be made in accordance with the applicable change processes described in the DURSA.

The eHealth Exchange Testing Program supports the following:
- Applicants who wish to join the eHealth Exchange as Participants;
- Existing eHealth Exchange Participants who wish to test new technology or retest as a condition of continued participation in eHealth Exchange; and
- Vendors who wish to have their product(s) validated as eHealth Exchange compliant. The eHealth Exchange Testing Program verifies that a System both complies with eHealth Exchange specifications and has the ability to interoperate with other eHealth Exchange Participant Systems.

The abbreviation of System Under Test (SUT) will be used to describe the role of the testing organization in the following test cases. The summary of test cases related to the Security Tests can be found below:

Table 1: Security Test Summary

SUT	Description	Specifications	Summary of Test Cases	Test Method
Participant	Transmitting clinical documentation to support treatment of an individual, care coordination or transitions of care	2011 version of the following: • Messaging Platform • Authorization Framework	Security Tests (2011) 19 Required Security Tests	Run tests against the Sequoia Project Testing environment Results validated by the Sequoia Project
Product Vendor		2011 version of the following: • Messaging Platform • Authorization Framework	Security Tests (2011) 35 Required Security Tests	

These test cases are currently in effect and are required for organizations wishing to onboard to the eHealth Exchange network and use a System supporting the 2011 specifications.

For more details: https://ehealthexchange.org/testing-program/testing-references/

These materials reflect the following:

- Change Log - The Official eHealth Exchange Specifications page lists, near the top, the Official Technical Errata and Change Log. This is the single authoritative source for changes to the Testing program, or specifications.

- Validated Product Testing Overview - List of documents for the required and provisional eHealth Exchange Product Testing Program. Includes the applications required and listing of all product test cases, documentation, provisional tests, conformity assessment checklists, Testing data load set and documents, and a description of content tests.

- Participant Testing Overview - A broad overview of the process, applications and documentation for the Participant Testing Program. List of all participant test cases, documentation, provisional tests, conformity assessment checklists, Testing data load sets and documents and a description of content tests for the current eHealth Exchange Participant Testing Program

- Test Data Load Set – Required data and associated document files to execute the test cases. This document contains the information required to execute the test cases within the Sequoia Testing environment including patient demographics, document metadata, as well as the mapping of the documents to the patients. The data must be loaded into the SUT exactly as prescribed in the spreadsheet and all attributes must be loaded (unless the attribute is an optional element and it is not supported by the SUT.

eHealth Exchange also has a Content Testing Program, which is not covered by this document. For an overview of the Content Testing Program, visit the Content Testing Program page on the eHealth Exchange website.

Smoke Test Case Summary

The Smoke Tests Service Sets, Test Scenarios and Test Cases can be summarized as below for the Participant and Product Testing Programs:

2011 Test Case	Participant	Product
TC: PD-I-0000.0-2011	Required	Required
TC: QD-I-0000.0-2011	Required	Required
TC: RD-I-0000.0-2011	Required	Required
TC: PD-R-0000.0-2011	Required	Required
TC: QD-R-0000.0-2011	Required	Required
TC: RD-R-0000.0-2011	Required	Required

TC: PD-I-0000.0 – Patient Discovery Initiating Gateway

Test Case ID:	TC: PD-I-0000.0
Title:	Smoke Test: Send a basic PD
SUT Role:	Initiator
IHE Profile:	Cross-community Patient Discovery (XCPD)
Flow:	Basic Success
Optionality:	Required

PURPOSE/DESCRIPTION

SUT initiates PD Request to the Testing Tool with the required parameters. Testing Tool responds with a match.

PRECONDITIONS

Data Load Set: DS:PRL-3

Test Case Patient Association: P-000000002

TEST STEPS

1. The SUT sends an immediate PD Request to the Testing Tool with the following parameters, with values taken from patient P-000000002:
   - SOAP Header = MP: MA Default Request (SUT) Message Parameters
   - LivingSubjectName
   - LivingSubjectAdministrativeGender
   - LivingSubjectBirthTime

2. The Testing Tool returns a PD Response with a match for patient P-000000002

3. Verify conformance of the PD Request to the:
   - CL: PD Initiator Request Checklist
   - CL:MA SOAP Request Checklist

4. Verify the SUT generates an audit message and that it conforms to the following:
   - CL:PD Initiator Audit Checklist

The user will extract the audit message and send it to testing@sequoiaproject.org. The Systems that are capable of submitting ATNA-compliant logs should do so. Systems that create proprietary content formats should assemble and submit data from their logs that describe the above transactions. The user should only extract and submit the log information relevant to the transaction described in the test case, and to exclude audit data that may correspond to other, unrelated transactions.

REFERENCED SPECIFICATIONS

2011 Exchange Specification	Patient Discovery v2.0
2011 Underlying Specification	IHE IT Infrastructure Cross-Community Patient Discovery (XCPD) ITI-55 (Version 2010-08-10) and IHE IT Infrastructure Technical Framework Vol.1 & 2a, 2x, 3 Revision 7.0 (2010-08-10)

CHANGE HISTORY

Date	Changes
July 10, 2018	Initial Draft Version
March 15, 2019	Updated to new Data Load Set

TC:PD-R-0000.0 - Patient Discovery Responding Gateway

Test Case ID:	TC: PD-R-0000.0
Title:	Smoke Test: Respond to a basic PD
SUT Role:	Responder
IHE Profile:	Cross-community Patient Discovery (XCPD)
Flow:	Basic Success
Optionality:	Required

PURPOSE/DESCRIPTION

Testing Tool sends a PD Request to the SUT with the required parameters. SUT responds with a match.

PRECONDITIONS

Data Load Set: DS:PRL-3

Test Case Patient Association: P-000000010

TEST STEPS

1. The Testing Tool sends an immediate PD Request to the SUT with the following parameters, with values taken from patient P-000000010:
   - SOAP Header = MP: MA Default Request (TestTool) Message Parameters
   - LivingSubjectName
   - LivingSubjectAdministrativeGender
   - LivingSubjectBirthTime
   - LivingSubjectId
   - PatientAddress
   - PatientTelecom

   NOTE: LivingSubjectName contains 2 given names with middle name in the second <given> element

   NOTE: Include SSN, use value taken from patient P-000000010

2. The SUT returns a PD Response with a match for patient P-000000010

3. Verify conformance of the PD Request to the:
    - CL: PD Responder Response Checklist
    - CL:MA SOAP Response Checklist

4. Verify the SUT generates an audit message and that it conforms to the following:
    - CL:PD Responder Audit Checklist

The user will extract the audit message and send it to testing@sequoiaproject.org. The Systems that are capable of submitting ATNA-compliant logs should do so. Systems that create proprietary content formats should assemble and submit data from their logs that describe the above transactions. The user should only extract and submit the log information relevant to the transaction described in the test case, and to exclude audit data that may correspond to other, unrelated transactions.

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CHANGE HISTORY

Date	Changes
July 10, 2018	Initial Draft Version
March 15, 2019	Updated to new Data Load Set

TC:QD-I-0000.0 – Query for Documents Initiating Gateway

Test Case ID:	TC: QD-I-0000.0
Title:	Smoke Test: Send a basic QD
SUT Role:	Initiator
IHE Profile:	Cross-community Access (XCA)
Flow:	Basic Success
Optionality:	Required

PURPOSE/DESCRIPTION

SUT initiates QD synchronous Find Documents request to the Testing Tool with the required parameters. Testing Tool responds with the matching documents metadata.

PRECONDITIONS

Data Load Set: DS:PRL-3

Test Case Patient Association: P-000000002

TEST STEPS

1. The SUT sends a synchronous Find Documents Request to the Testing Tool, using the following required parameters:
   - SOAP Header = MP: MA Default Request (SUT) Message Parameters
   - $XDSDocumentEntryPatientID = [P-000000002 PID]
   - $XDSDocumentEntryStatus = Approved OR Deprecated
   - $XDSDocumentEntryType = [Stable OR On-Demand Documents]
   - returnType = LeafClass
   - returnComposedObjects = true

   NOTE: Recommendation is to send both Stable OR On-Demand Documents as the $XDSDocumentEntryType default for all queries.

2. The Testing Tool successfully processes the Request and returns a Response to the SUT that contains the following objects:

   A 'Document Match' for D-000000002.1, D-000000002.16, D-000000002.17, and

   D-000000002.26 unless the Request only contains $XDSDocumentEntryType =

On-Demand Documents in which case the Testing Tool will not send a document in

the Response

NOTE: The parameters that are part of the Request should be the minimum that's checked on the Response.

3. Verify conformance of the QD Request to the:
    - CL: QD Initiator Request Checklist
    - CL: QD Initiator FindDocuments Checklist
    - CL: MA SOAP Request Checklist

4. Verify the SUT generates an audit message and that it conforms to the following:
    - CL: QD Initiator Audit Checklist

The user will extract the audit message and send it to testing@sequoiaproject.org. The Systems that are capable of submitting ATNA-compliant logs should do so. Systems that create proprietary content formats should assemble and submit data from their logs that describe the above transactions. The user should only extract and submit the log information relevant to the transaction described in the test case, and to exclude audit data that may correspond to other, unrelated transactions.

REFERENCED SPECIFICATIONS

2011 Exchange Specification	Query for Documents v3.0
2011 Underlying Specification	IHE IT Infrastructure Cross Community Access (XCA) Cross Gateway Query ITI-18 (Version 2010-08-10) and IHE IT Infrastructure Technical Framework Vol.1 & 2a, 2x, 3 Revision 7.0 (2010-08-10)

CHANGE HISTORY

Date	Changes
July 10, 2018	Initial Draft Version
March 15, 2019	Updated to new Data Load Set

TC:QD-R-0000.0 – Query for Documents Responding Gateway

Test Case ID:	TC: QD-R-0000.0
Title:	Smoke Test: Respond to a basic QD
SUT Role:	Responder
IHE Profile:	Cross-community Access (XCA)
Flow:	Basic Success
Optionality:	Required

PURPOSE/DESCRIPTION

Testing Tool initiates QD synchronous Find Documents request to the SUT with the required parameters. SUT responds with the matching documents metadata.

PRECONDITIONS

Data Load Set: DS:PRL-3

Test Case Patient Association: P-000000010

If the SUT is testing as an On-Demand system, the SUT should pre-create document D-000000010.1 from document D-000000010.27. After the document has been created, no data should change

TEST STEPS

1. The SUT sends a synchronous Find Documents Request to the Testing Tool, using the following required parameters:
   - SOAP Header = MP: MA Default Request (TestTool) Message Parameters
   - $XDSDocumentEntryPatientID = [P-000000010 PID]
   - $XDSDocumentEntryStatus = Approved
   - $XDSDocumentEntryType = [Stable OR On-Demand Documents]
   - returnType = LeafClass
   - SOAP request = synchronous
   - returnComposedObjects = true

2. The SUT successfully processes the Request and returns a Response to the Testing Tool that contains the following objects:
   One Stable document with:

-A 'DocumentMatch' of either: XDSDocumentEntry.uniqueId = D-000000010.1
OR (XDSDocumentEntry.patientID = [P-000000010 PID] AND
XDSDocumentEntry.authorPerson = [value from D-000000010.1])
-A match on: XDSDocumentEntry.status = [value from D-000000010.1]
-A match on: XDSDocument.objectType = [value from D-000000010.1]

If the SUT is testing as an On-Demand system, they would send one On-Demand document with:
-A 'DocumentMatch' of either: XDSDocumentEntry.uniqueId = D-000000010.27
OR (XDSDocumentEntry.patientID = [P-000000010 PID] AND
XDSDocumentEntry.authorPerson = [value from D-000000010.27])
-A match on: XDSDocumentEntry.status = [value from D-000000010.27]
-A match on: XDSDocument.objectType = [value from D-000000010.27]

NOTE: The creationTime, hash, and size SHALL not be included in the Response. The legalAuthenticator SHOULD not be included in the Response. The Testing Tool successfully processes the Request and returns a Response to the System that contains the following objects:

3. Verify conformance of the QD Request to the:
   - CL: QD Responder Response Checklist
   - CL: MA SOAP Response Checklist

4. Verify the SUT generates an audit message and that it conforms to the following:
   - CL:QD Initiator Audit Checklist.

The user will extract the audit message and send it to testing@sequoiaproject.org. The Systems that are capable of submitting ATNA-compliant logs should do so. Systems that create proprietary content formats should assemble and submit data from their logs that describe the above transactions. The user should only extract and submit the log information relevant to the transaction described in the test case, and to exclude audit data that may correspond to other, unrelated transactions.

REFERENCED SPECIFICATIONS

2011 Exchange Specification	[Query for Documents v3.0](#)
2011 Underlying Specification	[IHE IT Infrastructure Cross Community Access (XCA) Cross Gateway Query ITI-18 (Version 2010-08-10)](#) and [IHE IT Infrastructure Technical Framework Vol.1 & 2a, 2x, 3 Revision 7.0 (2010-08-10)](#)

CHANGE HISTORY

Date	Changes
July 10, 2018	Initial Draft Version
March 15, 2019	Updated to new Data Load Set

TC:RD-I-0000.0 – Retrieve Documents Initiating Gateway

Test Case ID:	TC: RD-I-0000.0
Title:	Smoke Test: Send a basic RD
SUT Role:	Initiator
IHE Profile:	Cross-community Access (XCA)
Flow:	Basic Success
Optionality:	Required

PURPOSE/DESCRIPTION

SUT initiates a synchronous Retrieve Documents request for one document to the Testing Tool. Testing Tool responds with the requested document.

PRECONDITIONS

Data Load Set: DS:PRL-3

Test Case Patient Association: P-000000002

TEST STEPS

1. The SUT sends a synchronous Retrieve Documents Request to the Testing Tool for one document, using the following required parameters:
   - SOAP Header = MP: MA Default Request (SUT) Message Parameters
   - RepositoryUniqueId: [Repository ID for D-000000002.1]
   - DocumentUniqueId: [Document ID for D-000000002.1]
   - homeCommunityId: [HCID for the Testing Tool]

2. The Testing Tool returns to the SUT an RD Response containing the requested document:

   RegistryResponse/@status:Success
   DocumentResponse: 1 present, contains document D-000000002.1

3. Verify conformance of the QD Request to the:
   - CL: RD Initiator Request Checklist
   - CL:MA SOAP Request Checklist

4. Verify the SUT generates an audit message and that it conforms to the following:
    - CL:RD Initiator Audit Checklist.

The user will extract the audit message and send it to testing@sequoiaproject.org. The Systems that are capable of submitting ATNA-compliant logs should do so. Systems that create proprietary content formats should assemble and submit data from their logs that describe the above transactions. The user should only extract and submit the log information relevant to the transaction described in the test case, and to exclude audit data that may correspond to other, unrelated transactions.

REFERENCED SPECIFICATIONS

2011 Exchange Specification	Retrieve Documents v3.0
2011 Underlying Specification	IHE IT Infrastructure Cross Community Access (XCA) Cross Gateway Retrieve ITI-43 (Version 2010-08-10) and IHE IT Infrastructure Technical Framework Vol.1 & 2a, 2x, 3 Revision 7.0 (2010-08-10)

CHANGE HISTORY

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TC:RD-R-0000.0 – Retrieve Documents Responding Gateway

Test Case ID:	TC: RD-R-0000.0
Title:	Smoke Test: Respond to a basic RD
SUT Role:	Responder
IHE Profile:	Cross-community Access (XCA)
Flow:	Basic Success
Optionality:	Required

PURPOSE/DESCRIPTION

Testing Tool initiates a synchronous Retrieve Documents request for documents to the SUT. SUT responds with the requested document.

PRECONDITIONS

Data Load Set: DS:PRL-3

Test Case Patient Association: P-000000010

TEST STEPS

1. The Testing Tool sends a synchronous Retrieve Documents Request for one document to the SUT, using the following required parameters:
   - SOAP Header = MP: MA Default Request (TestTool) Message Parameters
   - RepositoryUniqueId: [Repository ID for D-000000010.1]
   - DocumentUniqueId: [Document ID for D-000000010.1]
   - homeCommunityId: [HCID for the SUT]

   If the SUT is testing as an On-Demand system, the following On-Demand document would also need to be retrieved:
   - SOAP Header = MP: MA Default Request (TestTool) Message Parameters
   - RepositoryUniqueId: [Repository ID for the System]
   - RepositoryUniqueId: [Repository ID for D-000000010.27]
   - DocumentUniqueId: [Document ID for D-000000010.27]
   - homeCommunityId: [HCID for the System]

2. The System returns to the Testing Tool an RD Response containing the requested document.
   RegistryResponse/@status:Success
   DocumentResponse: 1 present, contains document D-000000010.1
   RepositoryUniqueId: [Repository ID for D-000000010.1]
   DocumentUniqueId: [Document ID for D-000000010.1]
   homeCommunityId: [HCID for the System]

3. Verify conformance of the QD Request to the:
   - CL: RD Responder Response Checklist
   - CL: MA SOAP Response Checklist

4. Verify the SUT generates an audit message and that it conforms to the following:
   - CL: RD Responder Audit Checklist.

The user will extract the audit message and send it to testing@sequoiaproject.org. The Systems that are capable of submitting ATNA-compliant logs should do so. Systems that create proprietary content formats should assemble and submit data from their logs that describe the above transactions. The user should only extract and submit the log information relevant to the transaction described in the test case, and to exclude audit data that may correspond to other, unrelated transactions.

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