



# Smoke Tests

For eHealth Exchange Participant and Product Testing

## 1. 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 the 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 the 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 Smoke Tests can be found below:

Table 1: Smoke Test Summary

SUT	Description	Specifications	Summary of Test Cases	Test Method
Participant or Vendor	Transmitting clinical documentation to support treatment of an individual, care coordination or transitions of care	<b>2011</b> version of the following: <ul style="list-style-type: none"> <li>• Messaging Platform</li> <li>• Authorization Framework</li> <li>• Patient Discovery</li> <li>• Query for Documents</li> <li>• Retrieve Documents</li> </ul>	Smoke Tests (2011) 3 Initiator Test Cases 3 Responder Test Cases	Run tests against the Sequoia Project Testing environment  Results validated by the Sequoia Project

These test cases are currently in effect and are required for organizations wishing to onboard to the eHealth Exchange Health Information Network (HIN) and use a System supporting the 2011 specifications.

**Commented [DD1]:** Update all hyperlinks as required with new eHEX website launch throughout this document

For more details: <http://sequoiaproject.org/ehealth-exchange/testing-overview/testing-references-2/>

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.
- [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.
- [Content Testing Overview](#) – eHealth Exchange enhanced content testing requirements were launched with required testing for all participants onboarding and in production effective February 5, 2018. This program is meant to begin to ensure the content of those data exchanges are both accurate and use to providers and patients.
- [The Sequoia Project ITP Guides](#)

**Commented [DD2]:** Change this link to the user guide documentation when available.

## 2. SMOKE TEST CASES 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
<a href="#">TC: PD-I-0000.0-2011</a>	Required	Required
<a href="#">TC: QD-I-0000.0-2011</a>	Required	Required
<a href="#">TC: RD-I-0000.0-2011</a>	Required	Required
<a href="#">TC: PD-R-0000.0-2011</a>	Required	Required
<a href="#">TC: QD-R-0000.0-2011</a>	Required	Required
<a href="#">TC: RD-R-0000.0-2011</a>	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:	<a href="#">Cross-community Patient Discovery (XCPD)</a>
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](#)

**Commented [DD3]:** Update this link with new website updates

Test Case Patient Association: P-000000002

#### Test Steps

- 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
- The Testing Tool returns a PD Response with a match for patient P-000000002
- Verify conformance of the PD Request to the:
  - CL: PD Initiator Request Checklist
  - CL:MA SOAP Request Checklist
- 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](mailto: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	<a href="#">Patient Discovery v2.0</a>
2011 Underlying Specification	<a href="#">IHE IT Infrastructure Cross-Community Patient Discovery (XCPD) ITI-55 (Version 2010-08-10)</a> and <a href="#">IHE IT Infrastructure Technical Framework Vol.1 &amp; 2a, 2x, 3 Revision 7.0 (2010-08-10)</a>

#### Change History

Date	Changes
July 10, 2018	Initial Draft Version

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

<b>Test Case ID:</b>	<b>TC: PD-R-0000.0</b>
<b>Title:</b>	Smoke Test: Respond to a basic PD
<b>SUT Role:</b>	Responder
<b>IHE Profile:</b>	<a href="#">Cross-community Patient Discovery (XCPD)</a>
<b>Flow:</b>	Basic Success
<b>Optionality:</b>	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](#)

**Commented [DD4]:** Update this link with new website updates

Test Case Patient Association: P-000000010

#### Test Steps

- 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

- The SUT returns a PD Response with a match for patient P-000000010
- Verify conformance of the PD Request to the:

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- 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](mailto: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	<a href="#">Patient Discovery v2.0</a>
2011 Underlying Specification	<a href="#">IHE IT Infrastructure Cross-Community Patient Discovery (XCPD) ITI-55 (Version 2010-08-10)</a> and <a href="#">IHE IT Infrastructure Technical Framework Vol.1 &amp; 2a, 2x, 3 Revision 7.0 (2010-08-10)</a>

### Change History

Date	Changes
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## 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:	<a href="#">Cross-community Access (XCA)</a>
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](#)

**Commented [DB5]:** Update this link with new website updates

Test Case Patient Association: P-000000002

### Test Steps

- 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
  - \$XSDSDocumentEntryPatientID = [P-000000002 PID]
  - \$XSDSDocumentEntryStatus = Approved OR Deprecated
  - \$XSDSDocumentEntryType = [Stable OR On-Demand Documents]
  - returnType = LeafClass
  - returnComposedObjects = true

**Commented [LB6]:** Not in test case in XDS tools but removing it changes the test.

**Commented [MB7R6]:** This is due to a limitation in test construction. We will address this issue later.

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

- 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 \$XSDSDocumentEntryType =

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](mailto: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	<a href="#">Query for Documents v3.0</a>
2011 Underlying Specification	<a href="#">IHE IT Infrastructure Cross Community Access (XCA) Cross Gateway Query ITI-18 (Version 2010-08-10)</a> and <a href="#">IHE IT Infrastructure Technical Framework Vol.1 &amp; 2a, 2x, 3 Revision 7.0 (2010-08-10)</a>

**Commented [LB8]:** Examine if these are capable of being changed to point to the spec in the assertion manager

**Commented [MB9R8]:** We will make this adjustment later.

**Change History**

Date	Changes
July 10, 2018	Initial Draft Version

### 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:	<a href="#">Cross-community Access (XCA)</a>
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](#)

**Commented [DD10]:** Update this link with new website updates

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

- 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
  - \$XSDDocumentEntryPatientID = [P-000000010 PID]
  - \$XSDDocumentEntryStatus = [Approved](#) OR Deprecated
  - \$XSDDocumentEntryType = [Stable OR On-Demand Documents]
  - returnType = LeafClass
  - SOAP request = synchronous
  - returnComposedObjects = true
- The SUT successfully processes the Request and returns a Response to the Testing Tool that contains the following objects:  
One Stable document with:

**Commented [LB11]:** Test case appears to only have Approved.

-A 'DocumentMatch' of either: XSDocumentEntry.uniqueId = D-000000010.1 OR  
(XSDocumentEntry.patientID = [P-000000010 PID] AND  
XSDocumentEntry.authorPerson = [value from D-000000010.1])  
-A match on: XSDocumentEntry.status = [value from D-000000010.1]  
-A match on: XSDocument.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: XSDocumentEntry.uniqueId = D-000000010.27 OR  
(XSDocumentEntry.patientID = [P-000000010 PID] AND  
XSDocumentEntry.authorPerson = [value from D-000000010.27])  
-A match on: XSDocumentEntry.status = [value from D-000000010.27]  
-A match on: XSDocument.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](mailto: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	<a href="#">Query for Documents v3.0</a>
2011 Underlying Specification	<a href="#">IHE IT Infrastructure Cross Community Access (XCA) Cross Gateway Query ITI-18 (Version 2010-08-10)</a>  and <a href="#">IHE IT Infrastructure Technical Framework Vol.1 &amp; 2a, 2x, 3 Revision 7.0 (2010-08-10)</a>

### Change History

Date	Changes
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## 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:	<a href="#">Cross-community Access (XCA)</a>
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](#)

**Commented [DD12]:** Update this link with new website updates

Test Case Patient Association: P-000000002

### Test Steps

- 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]

- 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

- 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](mailto: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	<a href="#">Retrieve Documents v3.0</a>
2011 Underlying Specification	<a href="#">IHE IT Infrastructure Cross Community Access (XCA) Cross Gateway Retrieve ITI-43 (Version 2010-08-10)</a> and <a href="#">IHE IT Infrastructure Technical Framework Vol.1 &amp; 2a, 2x, 3 Revision 7.0 (2010-08-10)</a>

#### Change History

Date	Changes
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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:	<a href="#">Cross-community Access (XCA)</a>
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(s). *If the SUT is not testing as an On-Demand system, then one document is returned. If the SUT is an On-Demand system two documents are returned.*

### Preconditions

Data Load Set: [DS:PRL-3](#)

**Commented [DD13]:** Update this link with new website updates

Test Case Patient Association: P-000000010

### Test Steps

- 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.

*If the SUT is not testing as an On-Demand system, then one document is returned. If the SUT is an On-Demand system two documents are returned.*

If the SUT is **NOT** testing as an On-Demand system, the following would be in the response:

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]

If the SUT is testing as an On-Demand system, the following would be in the Response:

RegistryResponse/@status:Success  
DocumentResponse: 2 present, contains document D-000000010.1 and D-000000010.27  
RepositoryUniqueId: [Repository ID for D-000000010.1]  
DocumentUniqueId: [Document ID for D-000000010.1]  
RepositoryUniqueId: [Repository ID for D-000000010.27]  
DocumentUniqueId: [Document ID for D-000000010.27]  
homeCommunityId: [HCID for the System]  
-Attribute NewRepositoryUniqueId should be present  
-Attribute NewDocumentUniqueId should be present

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](mailto: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.

**Commented [LB14]:** XDS Tools seems to be always looking for 2 documents.

**Commented [MB15R14]:** This will be addressed later.

### Referenced Specifications

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

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