The Quick Guide for eHealth Exchange Testing Programs

(Participant and Product Testing)

2010 & 2011 Versions

February 2015

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An important note:
This "Quick Guide to eHealth Exchange Participant Testing" is a brief program description. It does not constitute the full program policies and procedures of the eHealth Exchange Participant Testing Program. Those policies and procedures are contained within the validation plan and the applicant agreement.

1. Overview of the eHealth Exchange Participant & Product Testing Programs

The eHealth Exchange began as an ONC nationwide health information network program in 2007. Since that time, a rapidly growing community of public and private organizations has been routinely sharing information in production. That community now represents thousands of providers and millions of patients.

The eHealth Exchange now operates as an independently sustainable public-private partnership. Healtheway, Inc. operates this program as a non-profit, public-private partnership that operationally supports the eHealth Exchange.

This program is operated separately and distinctly from the ONC Meaningful Use testing and certification program. Read more about the details of those programs.

The eHealth Exchange Participant and Product Testing Programs were developed to test compliance for health information exchange (HIE) standards as required by the eHealth Exchange Coordinating Committee for onboarding to the eHealth Exchange network. Products that have successfully passed the Product Testing Program requirements allow implementers of those products to benefit from significantly reduced testing requirements at a reduced cost. Its purpose is to enable organizations that wish to participate in the eHealth Exchange to validate the compliance of their health information technology (HIT) with the eHealth Exchange Performance and Service Specifications. Healtheway now operates this program in conjunction AEGIS and their Developer's integration Lab (DIL).

The eHealth Exchange Testing Program utilizes the eHealth Exchange Performance and Service Specifications approved by the eHealth Exchange Coordinating Committee.

Other conditions of participation apply; those requirements are available at Healtheway.

2. The eHealth Exchange Participant & Product Testing Programs

Both the eHealth Exchange Participant and Product Testing Programs were developed to test compliance for health information exchange (HIE) standards as required by the eHealth Exchange Coordinating Committee for organizations seeking to onboard to the eHealth Exchange network. Its purpose is to enable organizations that wish to participate in the eHealth Exchange to validate the compliance of their health information technology (HIT) with the eHealth Exchange Performance and Service Specifications.

The Participant Testing Program is specifically designed for applicants that are seeking to onboard to the eHealth Exchange or for existing eHealth Exchange participants seeking to retest their system due to a major system upgrade or change to their technology. Upon successful completion of participant testing, a test summary report will be provided to the eHealth Exchange Coordinating Committee for their use in making a determination whether the eHealth Exchange applicant has satisfied all of the requirements for participation in the network.

The Product Testing Program is for product vendors seeking to verify their product against a more rigorous set of tests that will result in their product being considered "eHealth Exchange Validated". Any applicant or participant that utilizes an eHealth Exchange Validated Product will not need to conduct any of the security testing. This will result in a cost reduction for the applicant.

eHealth Exchange Participant and Product Testing is conducted in the DIL, an automated test environment developed by AEGIS.net, Inc. Based upon your choices of test version and optional test cases, you will find a list of test cases comprising your required tests at the Healtheway, Inc. Testing Resources site

The Testing Program currently includes the following:

2010 Specifications for Participants & Product Vendors

- 2010 Smoke Test Cases (6 required)

2011 Specifications for Participants

- 2011 Smoke Test Cases (6 required)
- Security Test Cases (19 required for Participants)
- Provisional Security Test Cases ***applicable to Product Testing ONLY*** (52 provisional)

2011 Specifications for Product Vendors

- 2011 Smoke Test Cases (6 required)
- Security Test Cases (35 required for Participants)
- Provisional Security Test Cases ***applicable to Product Testing ONLY*** (52 provisional)

Optional Content Testing

Content testing will be waived if you use a product that was certified for the ONC 2011 or 2014 Edition criteria. You may choose more than one content option. Content is defined as one of the following:

- Basic C32 (ONC 2011 Edition)
- Bridge C32
- C-CDA (ONC 2014 Edition)

The verification process employs a combination of the following methodologies:

- Review of results submitted by the applicant through the DIL
- Manual review of selected checklists (see section 2.3.12 Test Steps for further details)
- Manual review of optional content test cases

Test processes are accomplished 'virtually' and asynchronously, using a combination of the DIL, online forms, email, telephone and Web-conferencing tools to allow verification of results and submission of any necessary documentation. There is no travel necessary for you or the Healtheway tester.

An important note:
To achieve a pass, you must demonstrate 100% compliance with all applicable test cases and their conformance checklists for the test version and optional content you have chosen.

2.1 TEST CASE DOCUMENTATION HIERARCHY

The Test Cases are the lowest level of the hierarchy for the testing materials. Both test case documentation packages reflect the hierarchy and correlate to the information in the DIL. The Test Cases are located in a Scenario, the next level up in the hierarchy. Each Scenario is made up of several Test Cases; however, each Test Case is located in only one Scenario. The Scenarios are located in a Service Set, the highest level in the hierarchy. Each Service Set is made up of several Scenarios; however, each Scenario is located in only one Service Set. The Test Case Documentation packages contain the sections in the same order as the hierarchy flow. The following diagram shows the hierarchy.

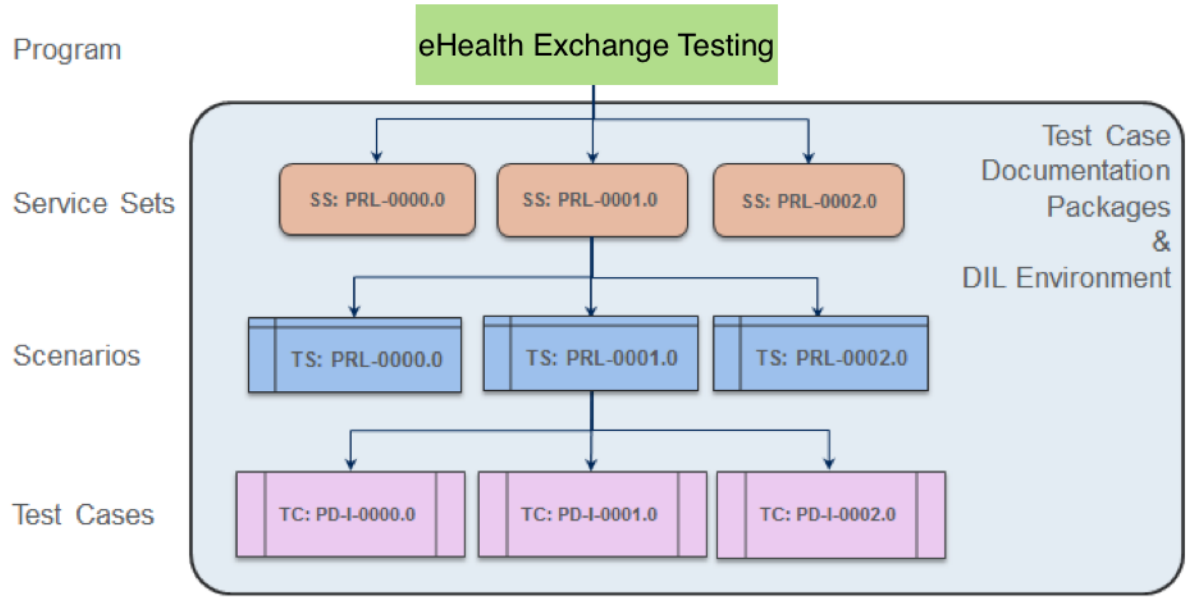


Figure 1. Hierarchy Diagram

2.2 SECTIONS

2.2.1 SERVICE SET

The Service Set section of the Test Case Documentation package contains the Service Set(s) that are part of the package. Each Service Set has information about the Scenarios that make up that Service Set as well as any additional information related to that Service Set. The Scenarios that encompass a Service Set were grouped by the version of the specifications.

2.2.2 SCENARIO

The Scenario section of the Test Case Documentation package contains the Scenario(s) that are part of the package. Each Scenario has information about the Test Cases that are to be executed within the Scenario as well as additional information for context of the Test Cases within that Scenario. The Test Cases that encompass a Scenario were grouped by the version of the specifications it tested as well as the type of Test Case they were (e.g. MA error test case).

2.2.3 TEST CASE

The Test Case section of the Test Case Documentation package contains the Test Cases that are part of the package. Each Test Case has information on the specific function or purpose for that test case that makes it unique from the other test cases. It also has the steps that are to be executed for the Test Case in the DIL by both the Applicant and the DIL

2.3 FIELDS

Within each section, there are several fields that provide additional context to the Service Set/Scenario/Test Case. Some of the fields are found in more than one section, while other fields are specific to just one.

2.3.1 ID

The ID field contains the reference id number (e.g. TC: MAQD-R-0003.000) for the Service Set/Scenario/Test Case. Each ID begins with an abbreviation for the type it is, e.g. “SS” for Service Set.

For each Test Case ID, the abbreviation after the colon describes the specification for the test case, e.g., “TC: PD” represents the Patient Discovery specification. If the test case has a main focus on the Messaging Platform and Authorization Platform specifications, the abbreviation will also include the secondary specification that is used for the function of the message, e.g., “TC: MAQD” represents the Messaging Platform and Authorization Framework specifications in addition to the secondary Query For Documents specification for the function of the message.

After the abbreviation for the specification and the first dash of the Test Case ID, an “I” or an “R” describes whether the Test Case is either an Initiator (“I”) test case or a Responder (“R”) test case. This information indicates whether the Applicant’s Gateway will be the Initiating Gateway and sending the Request message out to the DIL or the Responding Gateway and sending the Response message out to the DIL. This same abbreviation (“I” or “R”) can be found in the Scenario ID as well.

2.3.2 2011 EXCHANGE

For the 2011 Exchange (formerly “NHIN”) field, a value of “true” or “false” will be displayed. A value of “true” for the field indicates coverage for the 2011 version. A value of “false” for the field indicates that there is not coverage for the 2011 version.

2.3.3 2010 EXCHANGE

For the 2010 Exchange (formerly “NHIN”) field, a value of “true” or “false” will be displayed. A value of “true” for the field indicates coverage for the 2010 version. A value of “false” for the field indicates that there is not coverage for the 2010 version.

2.3.4 FLOW

This field is in the Test Case section only. The Flow field will display one of three values. The first possible value in this field is “Basic Success” which represents a basic test case that is has a successful result. The second possible flow value is “Alternate Success” which represents a non-basic test case that should have a successful result. The third possible flow value is “Error” which represents a test case that should cause an error response.

2.3.5 PURPOSE/DESCRIPTION

The Purpose/Description field contains a description of the Service Set/Scenario/Test Case.

2.3.6 DATA LOAD SET

The Data Load Set field contains the name of the data load set that was used for the Service Set/Scenario/Test Case. There is currently only one data load set that is in use: DS: PRL-2.

2.3.7 DATA NOTES

The Data Notes field contains any additional information in relation to the data or the data load for the Scenario/Test Case.

2.3.8 TEST SCENARIO

This field is in the Service Set section only. The Test Scenario field contains the list of Scenarios in that particular Service Set.

2.3.9 SCENARIO STEPS

This field is in the Scenario section only. The Scenario Step field contains a list of the steps that are to be executed. Each step includes information on the Test Case that should be executed as well as the patient that is used.

2.3.10 TEST CASE PATIENT ASSOCIATION

This field is in the Smoke Test Scenario and the Test Case section. The Test Case Patient Association field displays the patient that is being used for the Test Case for quick reference.

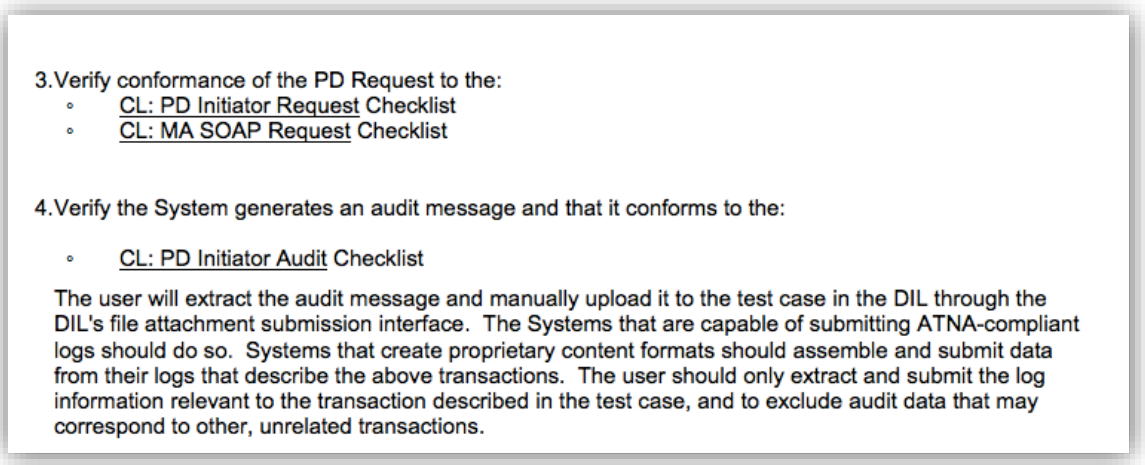
2.3.11 TEST CASE METADATA ASSOCIATION

This field is in the Smoke Test Scenario and the Test Case section. The Test Case Metadata Association field displays the metadata for the document that is being used for the Test Case for quick reference.

2.3.12 TEST STEPS

This field is in the Test Case section only. The Test Steps field contains a list of steps that should be executed for the Test Case. Each step has information that relates to the activity that is being accomplished.

Within these test steps there is a call out to the checklists that are also part of the overall testing programs for the eHealth Exchange. These checklists are available as a zip file and are applied to the initiator and responder messages as appropriate. The Healtheway tester will review the messages captured as part of the smoke tests for Patient Discovery (PD), Query for Documents (QD) and Retrieve Documents (RD). The checklists labeled MA SOAP Request and Response are applied to each of the PD/QD/RD messages and validate conformation to the Messaging Platform and Authorization Framework specifications. An example of how to associate the various checklists that are utilized can be seen below:



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

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

The user will extract the audit message and manually upload it to the test case in the DIL through the DIL's file attachment submission interface. 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.

2.3.13 REFERENCED SPECIFICATIONS

This field is in the Test Case section only. In this field, Referenced Specifications are listed for traceability of the Test Case to the specification being tested. The Referenced Specifications contains information for the 2011 Exchange (formerly "NwHIN") Specification, the 2011 Underlying Specification, the 2010 Exchange (formerly "NwHIN") Specification, and the 2010 Underlying Specification. Each specification within the traceability for the Test Case is listed under its respective section.

3. Preparing for eHealth Exchange Participant & Product Testing

Before beginning the testing process, you should familiarize yourself with the test specifications, test environment and testing process by reviewing the tools and materials supplied on the Healtheway, Inc. website.

Applicants, and current participants that are retesting must submit a signed Testing Services Agreement and 'Testing Readiness Checklist' to admin@healthewayinc.org and pay test fees before getting setup in the DIL environment. Product vendors that plan to complete product testing must submit a Product Testing Application, signed Testing Services Agreement to admin@healthewayinc.org and also pay testing fees.

All required documents are available on the Healtheway website. There are no technical restrictions that will prevent you from getting setup in the DIL before paying test fees; however, you will only receive limited support you will not receive your final test results report until the fee has been paid. A comparison is provided below.

Participant Testing (For New Applicants and Existing Participants)	Product Testing (For Vendors)
Apply to eHealth Exchange (New Applicants)	Apply to the Product Testing Program

• eHealth Exchange Application (New Applicants: The Testing Services Agreement is included in the Application) • DURSA (Version September 30, 2014) • eHealth Exchange Participation Agreement • Testing Services Agreement • Healtheway Testing Readiness Checklist (You may need to enlist your vendor's help to complete this checklist)	• Submit Product Testing Application • Submit Signed Testing Services Agreement • Complete DIL Setup Checklist • Pay Testing Fees
Coordinating Committee Approves Application for Participation and Refers Applicant to Begin Practice Testing	N/A
Setup and Conduct Practice Testing in the DIL	Setup and Conduct Practice Testing in the DIL
Run Tests and Submit Results	Run Tests an Submit Results
Coordinating Committee Approves Applicant Test Results	Healtheway Approves Applicant Test Results
Activate in Production Environment	

An important note:
Applicants are not subject to a specific timeframe when practice testing in the DIL. This allows you to practice until you are confident that you can successfully pass all of the tests. The 60-day timeframe begins after you submit your results for validation.

When you can successfully execute 100% of your applicable test cases, you are ready to submit your results for validation.

4. The Testing Process

Healtheway will review your completed Testing Readiness Checklists to ensure they are complete. Once that is completed, you will be advised via email that you can begin testing against the list of test cases you have selected.

Using the list of test cases as determined by the testing version (e.g., 2010 or 2011) you have selected, you will execute each test case in the DIL, and upon successful completion of the test

case and its submission, you will send an email with your unique testing ID's from the DIL to testing@healthewayinc.org that you are prepared for validation.

The tester will review the submissions and provide analysis of the results within five business days. The tester determines the compliance of the technology with each applicable test case and determines if any retesting is required and, if so, provides information to you on items requiring retesting and a time limit for completing the submission of the items. If no retesting is required, the Healtheway tester will let you know that this concludes the test.

An important note:

- *You will have 60 calendar days from your initial official submission date to complete the entire testing process. You are allowed two chances to submit applicable tests for Healtheway tester evaluation before retest fees will apply.*
- *Healtheway may agree to extensions of the 60-day period if unexpected delays occur as a result of our efforts or under other extenuating circumstances on a case-by-case basis.*

5. Your Test Results

Once all your test cases are submitted and reviewed by the Healtheway tester, and any deficiencies noted or corrected, Healtheway will prepare your test summary report. The final summary report is provided to you for consideration within five business days of submission of the test cases. If you fail, Healtheway will provide you with the reasons for failure and you will have the opportunity to resubmit those test cases that failed. If your test results pass, Healtheway will present your test results report to the Coordinating Committee to render a decision regarding your participation in the eHealth Exchange. The results will be final, unless you choose to exercise your right to appeal the decision.

An important note:

The Healtheway tester does not have the authority to make eHealth Exchange network onboarding decisions. The eHealth Exchange Coordinating Committee will make that decision after review of your summary report and completion of other conditions of participation.

6. Your Right to Appeal

Healtheway has a one-level internal procedure to provide expedited review of testing results. These Testing Appeal Policies and Procedures are fully explained in the eHealth Exchange Participant Testing Program Handbook and are designed to resolve disputes raised by applicants and enhance the integrity and fairness of the eHealth Exchange Participant Testing Program. Healtheway's Chief Executive Officer or designee participates in the review of appeals.

7. The eHealth Exchange Participant and Product Fee Schedule

2010 Participants

Smoke Test Cases[1] (required)	Peer-to-Peer Testing available with 2011 testing[1]

2011 Participants

Smoke Test Cases[1] (required)	$11,000
Security Test Cases (required)	$8,000

Product Validation Testing	$34,000
Smoke Test Cases[1] (required)	
Security Test Cases (required)	
Security Test Cases (provisional)	

Optional Content Testing[2]

Basic C32 (ONC 2011 Edition)	$3,000
Bridge C32	$3,000
C-CDA (ONC 2014 Edition)	$3,000

Notes:

1. Participants choosing to complete both the 2010 and 2011 Smoke Test Cases will have a peer to peer testing program available at no additional cost.
2. Applicants may choose more than one Content option; individual fees are applied for each option chosen.

Service Charges

Incomplete Applications	15% of testing fee
Timeframe Extension (beyond 60 days)	15% of testing fee

Additional Submissions Evaluated by Tester	$2,000