IHE International

Conformity Assessment Scheme

Part 2: Requirements for Conformity Assessment – 2019-2 Cycle

(IHE-CAS-2)

July 24th, 2019

Approved by CAsC Committee

Contents

1 Section 1 - General Information

1.1 Context

This document is the second of the two volumes of the IHE Conformity Assessment Scheme (IHE-CAS). It describes:

- The set of IHE profiles selected for IHE Conformity assessment testing;
- Test methods including test cases, test tools and test data;
- Templates to be used by test laboratories.

IHE-CAS-2 builds upon the governance and processes of conformity assessment specified by IHE-CAS-1. See http://www.ihe.net/ Conformity_Assessment.aspx

IHE-CAS-2 provides requirements for assessing product conformance to the selected IHE Profiles. A Testing Report is delivered by an IHE Authorized Testing Laboratory as the result of this assessment.

IHE-CAS-2 also provides requirements for any Testing Laboratory in its accreditation and IHE authorization processes (see section 3.6 of IHE-CAS-1).

IHE-CAS-1 describes the governance and processes of conformity assessment including test laboratory accreditation and authorization processes (see section 3.6 of IHE-CAS-1).

1.2 Lifecycle

The IHE-CAS-2 document is periodically updated (typically every year) by the IHE International Conformity Assessment Coordination Committee (CAsC) as described in section 4.2 of IHE-CAS-1

The first version (2015 Cycle) of this document (July 2015) introduces an initial set of six Profiles that has been intentionally limited to enable the ramp-up of the IHE Conformity Assessment program by a limited number of IHE deployment Committees and IHE authorized laboratories.

The second version (2016 Cycle) of this document (July 2016) introduces an additional set of seven Profiles that now establishes the breadth of the IHE Conformity Assessment program by a number of IHE deployment Committees and IHE authorized laboratories.

The third version (2017 Cycle) of this document introduces three new profiles and enhanced testing coverage. These profiles cover the cross-organizational domain for regional and national health information exchange as well as interoperability within hospitals, including the access to medical device data.

This fourth version (2019 Cycle) of this document does not introduce any new profile. In the contrary, the following profiles are now testing in regards to the latest version of the IHE Technical Framework as of October 2018: Consistent Time (CT), Audit Trail and Node Authentication (ATNA), Cross-Enterprise User Authentication (XUA), Cross-Enterprise Document Sharing (XDS.b), Cross-Community Access (XCA), Cross-Enterprise Document Sharing for Imaging (XDS-I.b), and Cross-Community Access (XCA-I).

This Version 2019-2 enlarges the list of profiles based on the latest version of the IHE Technical Framework as of October 2018: Patient Administration Management (PAM), Patient Demographics Query (PDQ), Patient Demographics Query HL7v3 (PDQV3), Patient Identifier Cross-Reference Management (PIX), Patient Identifier Cross-Reference Management HL7V3 (PIXV3), Cross-Community Patient Discovery (XCPD), Laboratory Automation Workflow (LAW), Device Enterprise Communication (DEC), Point-of-care Infusion Verification (PIV).

The current version of this IHE-CAS-2 document is available at:
See https://www.ihe.net/testing/conformity-assessment/

1.3 Requirements for Test Labs and SUT in Using CAS-2

1.3.1 A testing laboratory offering conformity assessment of products shall select one or more Profiles listed in the table below. It shall offer conformity assessment of products for all Actors and profile-defined Option(s) listed in the table below.

1.3.2 A testing laboratory shall report in the detailed test report (using the template in Section 2.1.1) for the scope selected per Section 1.3.1, all performed test cases and their result: pass/fail/pass with comment. A testing Laboratory shall only include in the Summary Test Report the results for profile/actor/options for which the SUT passes or passes with comments the relevant test cases (See Section 3).

1.3.3 A party seeking conformity assessment of its product may select one or more Profiles listed below.

1.3.4 For each selected Profile, a party seeking conformity assessment may select one or more Actors among those listed in the table below.

1.3.5 For each Actor, a party seeking conformity assessment may select for testing the profile-defined Option(s) listed in the table below.

Table 1.3-1 Overview of the Profile/Actor pairs for which Conformity Assessment is available

IHE Profile	Actors and *Option (See sections 1.3.4 & 1.3.5)*	Reference Technical Framework	Test Methods
IT Infrastructure			
CT **Consistent Time** *enables system clocks and time stamps of computers in a network to be synchronized (median error less than 1 second).*	Time Client : - *No Options*	IHE IT Infrastructure Technical Framework • Vol 1 – Section 7 • Revision 15.0	Section 3.1.1
ATNA **Audit Trail and Node Authentication** *Basic security through (a) functional access controls, (b) defined security audit logging and (c) secure network communications.*	Secure Application : - *No Option*	IHE IT Infrastructure Technical Framework : • Vol 1 – Section 9 • Revision 15.0	Section 3.2
XDS.b **Cross Enterprise Document Sharing**	Document Registry : - *Patient Identity Feed* - *Patient Identity Feed v3*	IHE IT Infrastructure Technical Framework : • Vol 1 – Section 10 • Revision 15.0	Section 3.3.4

IHE Profile	Actors and *Option (See sections 1.3.4 & 1.3.5)*	Reference Technical Framework	Test Methods
Share and discover electronic health record documents between healthcare enterprises, physician offices, clinics, acute care in-patient facilities and personal health records.	Document Repository : - *No Options*		Section 3.3.3
	Integrated Document Source/Repository Actor - *No Options*		Section 3.3.5
	Document Source : - *Doc Replacement*		Section 3.3.2
	Document Consumer : - *No Options*		Section 3.3.1
PDQ **Patient Demographics HL7v2** *Query a patient information server for a list of patients, based on user defined search criteria, and retrieve a patient's demographic information*	Patient Demographics Consumer : - *Pediatric Demographics*	IHE IT Infrastructure Technical Framework : • Vol 1 – Section 8 • Revision 15.0	Section 3.4.1
	Patient Demographics Supplier : - *Pediatric Demographics*		Section 3.4.2
PDQv3 **Patient Demographics Query HL7v3** *Query a patient information server for a list of patients, based on user defined search criteria, and retrieve a patient's demographic information*	Patient Demographics Consumer : - *Pediatric Demographics*	IHE IT Infrastructure Technical Framework : • Vol 1 – Section 24 • Revision 15.0	Section 3.5.1
	Patient Demographics Supplier : - *Pediatric Demographics*		Section 3.5.2
PIXv3 **Patient Identifier Cross Referencing HL7v3** *Supports the cross-referencing of patient identifiers from multiple Patient Identifier Domains.*	Patient Id Cross-Reference Consumer: - *No Options*	IHE IT Infrastructure Technical Framework : • Vol 1 – Section 23 • Revision 15.0	Section 3.6.1
	Patient Id Cross-reference Manager: - *Pediatric Demographics*		Section 3.6.2
PIX **Patient Identifier Cross Referencing HL7v2** *Supports the cross-referencing of patient identifiers from multiple Patient Identifier Domains.*	Patient Id Cross-Reference Consumer: - *No Options*	IHE IT Infrastructure Technical Framework : • Vol 1 – Section 5 • Revision 15	Section 3.7.2
	Patient Id Cross-reference Manager: - *Pediatric Demographics*		Section 3.7.1
PAM	Patient Demographic	IHE IT Infrastructure	Section

IHE Profile	Actors and *Option (See sections 1.3.4 & 1.3.5)*	Reference Technical Framework	Test Methods
Patient Administration Management *Defines transactions based on message exchanges to support patient identity and encounter information, as well as movements within an acute care encounter.*	Consumer: - *Merge* - *Link/Unlink*	Technical Framework • Vol 1 – Section 15 • Revision 15	3.8.1
	Patient Demographic Supplier: - *Merge* - *Link/Unlink*		Section 3.8.2
	Patient Encounter Consumer: - *Inpatient/ Outpatient* - *Maintain demographics* - *Advanced encounter management* - *Historic movement*		Section 3.8.3
	Patient Encounter Supplier: - *Inpatient/ Outpatient* - *Maintain demographics* - *Advanced encounter management* - *Historic movement*		Section 3.8.4
XCA **Cross Community Access** *Supports the means to query and retrieve patient relevant medical data held by other communities. A community is defined as a coupling of facilities/ enterprises that have agreed to work together.*	Initiating Gateway - *No Options*	IHE IT Infrastructure Technical Framework • Vol 1 – Section 18 • Revision 15	Section 3.9.1
	- Responding Gateway *On-Demand Documents*		Section 3.9.2
XCPD **Cross Community Patient Discovery** *Supports the means to locate communities that hold patient relevant health data and the translation of patient identifiers across communities holding the same patient's data.*	Initiating Gateway - *Deferred response*	IHE IT Infrastructure Technical Framework • Vol 1 – Section 27 • Revision 15	Section 3.10.1
	Responding Gateway - *No Options*		Section 3.10.2
XUA **Cross Enterprise User Assertion**	X-Service User	IHE IT Infrastructure Technical Framework • Vol 1 – Section 13 • Revision 15	Section 3.18.2
	X-Service Provider		Section 3.18.1
Pathology and Laboratory Medicine			

IHE Profile	Actors and *Option (See sections 1.3.4 & 1.3.5)*	Reference Technical Framework	Test Methods
LAW **Laboratory Analytical Workflow** *Supports the analytical workflow between analyzers (an IVD device) of the clinical laboratory and the systems managing their work such as a LAS or a LIS. Both patient and quality control (QC) specimens are in scope.*	Analyzer - *No Options*	IHE Pathology and Laboratory Medicine Technical Framework • Vol 1 – Section 5 • Revision 9.0	Section 5.1.1.1
	Analyzer Manager - *No Options*		Section 5.1.1.2
Patient Care Devices			
DEC **Device Enterprise Communication** *Supports communication of vendor independent, multi-modality Patient Care Devices data to Enterprise Applications using consistent semantics.*	Device Observation Consumer - *No Options*	IHE PCD Technical Framework • Vol 1 – Section 3 • Revision 8.0	Section 3.14.1
	Device Observation Reporter - *No Options*		Section 3.14.2
PIV **Point-of-care Infusion Verification** *Supports the electronic transfer of infusion parameters from a Bedside Computer assisted Medication Administration (BCMA) system to a general-purpose infusion pump. This capability will reduce errors by eliminating keystroke errors and by increasing the use of automatic dosage checking and increase caregiver productivity.*	Infusion Order Programmer - *No Options*	IHE PCD Technical Framework • Vol 1 – Section 4 • Revision 8.0	Section 3.15.1
	Infusion Order Consumer - *No Options*		Section 3.15.2
Radiology			
XCA-I **Cross-Community Access for Imaging**	Initiating Imaging Gateway	IHE RAD Technical Framework • Vol 1 - Section 29 • Revision 17.0	Section 3.16.1
	Responding Imaging Gateway		Section 3.16.2
XDS-I.b **Cross-Enterprise Document Sharing for Imaging**	Imaging Document Source	IHE RAD Technical Framework • Vol 1- Section 18 • Revision 17.0	Section 3.17.2
	Imaging Document Consumer		Section 3.17.1

1.4 Definitions

See IHE-CAS-1 Section 1.4 "Definitions". In addition, the following terms are defined.

Conformity

Conformity means compliance with standards, rules, or laws [NOAD]

Conformity Assessment

Testing to see if an implementation or product faithfully meets the requirements of a standard or specification. [ISO]

System Under Test (SUT)

A system implementation that has applied to be tested against a conformity assessment scheme.

Test Case

A set of test scripts including input values, execution preconditions, expected results and execution post-conditions, developed for a particular objective or test condition, such as to exercise a particular program path or to verify compliance with a specific requirement. [From IEEE 610]

Test Management Tool

A tool that provides support to the test management and controls part of a test process. It often has several capabilities, such as testware management, scheduling of tests, logging of results, progress tracking, incident management and test reporting.

Test Method

Defined technical procedure, test cases, test tools, test data and processes to determine one or more specified characteristics of a product.

Test Method Evaluation Report

A quality management report that covers the description of the test tools and test cases included, their requirements coverage, and the quality management process applied to the test tools development.

Testing Report

A document issued by an authorized and accredited testing laboratory, attesting to the performing of the test methods specified by the IHE conformity assessment scheme - Part 2 (CAS-2).

Test Scripts

Test procedures that describe the sequence of actions for the execution of a given test. (ISTQB)
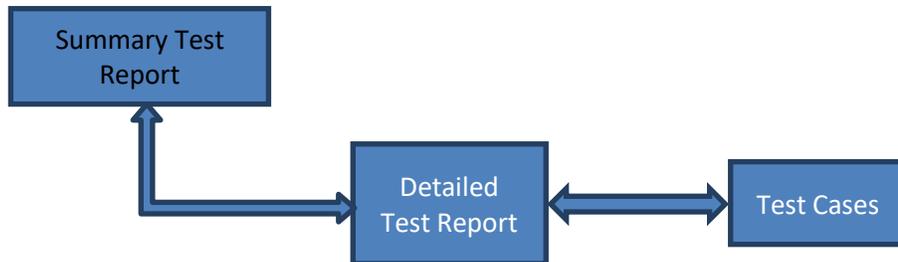
Test Tool

A software that supports one or more test activities, such as planning and control, specification, building initial files and data, test execution and test analysis. [TMap].

2 Resources

2.1 Templates

Three templates are provided. Their names and relationship are shown in figure 2.1-1.

Figure 2.1-1 Templates and Relationships

2.1.1 Test Case and Detailed Test Report Templates

The Test Case Template is included in Appendix A.1. It is used by IHE-CAS to specify the test cases to be executed by Test Laboratories.

The Detailed Test Report Template is displayed in Appendix A.2. It is used for reporting test execution by Test Laboratories. It builds upon the Test Cases template.

A Word file is available for users of these two templates such as an IHE International Authorized Testing Laboratory to report the execution of those test cases (see http://wiki.ihe.net/index.php/Conformity_Assessment_Committee).

This template is use by the Test Cases listed in Section 3 to test a specific Profile/Actor. A Test Case includes one or more test scripts (Gazelle calls it a test) as well as the supporting test data.

An SUT (System under Test) plays one of the ROLES for which the test case has been specified. A ROLE is a list of Actor/Profile/Option combination to which a test case applies.

2.1.2 Templates used for summary reports of test execution

This Summary Report template is used by an IHE International Authorized Testing Laboratory to summarize the execution of test cases by a System Under Test per the principles stated in Section 1.3.2. Such a summary is may be made publicly-available by IHE International or by the party seeking conformity assessment in promoting its conformity to specific IHE Profiles.

The Detailed Test Report Template is displayed in Appendix A3. A Word file is available to an IHE International Authorized Testing Laboratory to report the execution of test cases (see http://wiki.ihe.net/index.php/Conformity_Assessment_Committee).

2.2 Types of test tools

IHE-CAS classifies the Interoperability Testing tools that support the execution of test cases in several categories (from EU Antilope Project D3.1 deliverable[1]):

Test Management Tool: facilitates the execution of tests but may include additional functionalities that would be useful in performing the tests and collecting the results. This document will focus on two distinct groups within the wide range of Test Management tools:

> a) Tools that help organize and run large interoperability events involving large number of participants and a large number of tests. The tools in this group will typically manage test scenarios for peer-to-peer tests and may also support test planning and setup for large test events. They may also support the configuration process for all participating communication partners (e. g. IP addresses, ports, codes to be used, message types, other tools like simulators and validators). In order to trigger actual test runs, the software selects the communication partners from the pool of existing systems based on a number of criteria, including their communication capabilities and test instances required to reach the system's certification goals for the event (e. g. to run each test case with a certain number of distinct test partners). Such tools may also support other functionalities such as authoring of test cases and reporting of interim and final test results to the test managers and test partners.

> b) Execution frameworks that facilitate the selection of individual tests, collection of test results including evidence of tests performed such as pass/fail verdicts with corresponding traces.

Conformance testers: A conformance tester is an automated tool that is capable of checking the behaviour of the system under test. The tester takes the role of the communication partner, provides stimuli to the system under test, collects the responses and evaluates whether the order, timing and/or content of messages sent by the system under test conform to the requirements of a given standard and profile. Advanced testers may take the roles of all entities that are communicating with the system under test. In some situations a conformance tester is used to validate the structure and/or content of a document used in eHealth systems. Conformance tester tools vary in the extent to which they test the requirements in the profile. The simplest testers may only check some requirements, for example message or document syntax. Advanced conformance testing tool would check most or all important requirements. Depending on the level of precision in reporting problems discovered, conformance tester tools can provide valuable aid in rapid discovery and resolution of interoperability problems.

Interoperability Validator: automated tool that is checking the behavior of the system under test. It collects the messages exchanged between the two interacting systems one of which may be a simulator tool and evaluates whether the order, timing and/or content of messages sent by the system under test conform to the requirements of a given standard and profile.

Interoperability validator tools vary considerably in their checking capabilities. Some may be dedicated to check only specific requirements, for example message or document syntax. In addition, the level of automation in triggering testing activities, in collecting the test traces and in the automated analysis of the test results can be quite different.

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[1] Antilope: www.antilope-project.eu

Simulator: is a tool acting as a connection partner to the system that needs to be tested.

In most cases, a simulator interacts with a system under test (SUT) in order to trigger certain behavior. For a system on a network, the simulator could send network messages. For other systems, it could simulate user input or any other input.

A simulator itself does not assess the behavior of the SUT. However, a simulator may have integrated capability to collect the trace of the exchange that could then be evaluated manually or using other means.

Simulator tools are useful for testing before peer-to-peer interoperability events or as replacement for needed communication partners that are not available.

Test data generator: accelerates test data preparation by providing valid, input data to be used in testing. The best results are achieved if a data generator can be used such that it efficiently generates data that both respects and exercises the constraints set by a profile being tested.

Support tools: During testing and debugging various support tools may be useful. While they do not test anything themselves, they may provide means of collecting the information that is needed to progress with testing. The examples are viewers that present the information in an understandable format, proxies that facilitate reliable and uniform collection of traces and many others.

Sniffers: also known as network analyzers or protocol analyzers. A sniffer is able to capture, record, decode and analyze communication protocol messages inside the data packages. This can be done transparently to the ongoing communication, as required by non-destructive protocol testing. Network sniffers must be able to decode all relevant communication protocols (TCP/IP, HL7, DICOM, etc.) in order to prepare message validation or other tasks. Sniffers are used not only in eHealth but are applicable to any domain that uses network messaging to exchange information.

2.3 Test tool requirements

Authors of Test Methods in Section 3 shall ensure that any test tools incorporated there comply with the following requirements and guidelines. The test tools:

a) Shall have technical documentation, including the supporting operating system and development environment

b) Shall either:
   - Be developed by organizations operating under ISO/IEC 17025 (or ISO/IEC 9001) quality system, or
   - Be validated by an IHE-designated organization under ISO/IEC 17025 (or ISO/IEC 9001) quality system

c) Shall have an identified organization committed to maintaining the tool

d) Shall have its source code available as open source (Apache or equivalent right to use and modify without having to contribute back changes)

e) Shall have a proof for its validation (e.g. report per ISO/IEC 9001)

f) Shall have demonstrated integration with a test management tool. For 2015 and 2016, Gazelle has been selected.

g) Shall have a documented track record of use (e.g. used as part of pre-connectathon testing)

h) Shall generate reports and documentation required for ISO/IEC 17025 (observer notes, check points, documentation templates) and enable efficient observer documentation generation

i) Should be easy to install and use for the SUT and the testing monitor.

j) Should be "extensible" to incorporate testing additional details for national extensions or other interoperability project specifications.

2.4 Test data requirements

Authors of Test Methods in Section 3 shall ensure that any test data incorporated there comply with the following requirements and guidelines. The test data:

a) Should be dynamically generated or drawn from a large pool to prevent gaming of the system

b) Should be clinically accurate (as vetted by clinicians)

c) Shall contain data that is consistent within a test case and across test cases when relevant

2.5 Test Cases requirements

Authors of Test Cases in Section 3 shall ensure that the test Cases comply with the following requirements and guidelines. The test cases:

a) Shall specifically address the "details" that formed the basis of including the Profile in CAS-2. (See Appendix A)

b) Shall be efficient and pragmatic, meaning they:
   - Simplify test execution (e.g. do not repeat identical tests except in the case of test workflow and only when relevant)
   - Prioritize testing of sensitive areas

c) Should be automated and easy to use for the SUT and the monitors.

d) Shall calculate and document test coverage in terms of:
   - Number of requirements identified
   - Number of requirements addressed
   - % addressed (Number of requirements addressed/Number of requirements identified)
   - % not addressed (Number of requirements not addressed/ Number of requirements identified). Note: the two above should sum to 100%

e) Shall include testing of responses to selected non-conforming exchanges

f) Shall include testing of the breadth of the scope of the test cases

g) Shall be placed under requirements traceability management (linked to the IHE Technical Framework)

h) Shall either:
   - Be developed by organizations operating under ISO 17025 (or ISO 9001) quality system, or
   - Be validated by an IHE-designated organization under ISO 17025 (or ISO 9001) quality system

i) Shall have a documented track record of use (e.g. used as part of pre-connectathon testing)

3 Test methods

The specification of the 2019 Cycle Test Methods are available on-line:
- Test Cases as a set of documents (based on the above template)
- Test Data as set of files
- Test Tools Including the IHE Gazelle test management tool (gazelle.ihe.net)

Each Test Case is identified by a name and an ID number.

A Test Case plus the associated Test Data also receives a unique "permanent reference number" plus a "time stamp". If corrections are applied either to the test case or to the test data or to both, the time stamp will change, but not the permanent number.

A System Under Test (SUT) shall be tested using the test methods as specified in this section (See IHE-CAS-1 Section 5.4.2). SUTs shall succeed at all test cases for the profile/actor pair and option(s) selected for Conformity Assessment.

Test Data to be used as part of the test methods specified in this Section 3, is specified by the Test Cases and is available along with the Test Tools. It is not intended to use alternative test data. This may be considered in future versions of CAS-2.

3.1 Profile CT

The Consistent Time Profile enables system clocks and time stamps of computers in a network to be synchronized (median error less than 1 second).

The test methods specified in this section are based on the IHE Profile as specified in IHE ITI TF-1:7, section from version 15.0 of this Technical Framework, issued July 26th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after July 26th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case pass with a comment.

3.1.1 Time Client Actor

3.1.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data Version and Reference	Supporting Test Tool ID
CT_Time_Synchronization_NTP	CT Time Synchronization NTP	Synchronize a system with a public NTP server.	Version : CATS2015 Last Modified : 3/26/15 4:50:04 PM (CET) Permanent number : 12558	None

3.1.1.2 List of related test tools

Not applicable.

3.2 Profile ATNA

The Consistent Time Profile enables Basic security through (a) functional access controls, (b) defined security audit logging and (c) secure network communications.

The test methods specified in this section are based on the IHE Profile as specified in IHE ITI TF-1:9, section from version 15.0 of this Technical Framework, issued July 26th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after July 26th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case pass with a comment.

3.2.1 Secure Application Actor

3.2.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data Version and Reference	Supporting Test Tool ID
ATNA_Complete_Questionnaire	ATNA: Complete Questionnaire	ATNA: Complete Questionnaire	Version : CATS2016 Last Modified : 3/30/16 2:28:05 PM (CET) Permanent number: 12553	Gazelle Security Suite
ATNA_Message_Send	ATNA: Send messages to Audit Record Repository	The purpose of this test is to check that your system correctly implements the syslog protocol	Version : CATS2017 Last Modified : 2/2/17 3:33:50 PM (CET) Permanent number: 12562	Gazelle Security Suite
ATNA_Audit_message_check	ATNA - Audit message check	audit message check	Version : CATS2016 Last Modified : 3/30/16 2:45:05 PM (CET) Permanent number: 12556	Gazelle Security Suite
ATNA_Authentication_Test	ATNA - Authentication test	Test authentication using TLS and certificates	Version : CATS2016 Last Modified : 3/30/16 2:32:50 PM (CET) Permanent number: 12554	Gazelle Security Suite
ATNA_Authentication_Error_Cases	ATNA - Authentication error cases	Test TLS authentication error cases	Version : CATS2019 Last Modified : 12/12/18 5:05:50 PM (CET) Permanent number: 12564	Gazelle Security Suite

3.2.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Info Page	Category
Gazelle Security Suite	PKI, TLS Simulators, syslog, and ATNA Questionnaire	6.0.2	IHE Europe	https://gazelle.ihe.net/	Simulator

3.3 Profile XDS.b

The Cross-Enterprise Document Sharing Profile enables sharing and discovery of electronic health record documents between healthcare enterprises, physician offices, clinics, acute care in-patient facilities and personal health records.

The test methods specified in this section are based on the IHE Profile as specified in IHE ITI TF-1:10, section from version 15.0 of this Technical Framework, issued July 26th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after July 26th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case pass with a comment.

3.3.1 Document Consumer Actor

One option may be selected by the SUT:
- *Doc Replacement*

3.3.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XDS.b_CONS_Configuration	XDS.b registry and repository configuration for Document Consumer	Description of the configuration of the registry and repository used for testing	Version : CATS2015 Last Modified : 2/15/17 5:40:37 PM (CET) Permanent number: 12517	XDS Toolkit
XDS.b_CONS_Query	XDS.b Consumer testing	A list of steps to be executed to verify the consumer is able to interact with a registry/repository	Version : CATS2015 Last Modified : 4/16/15 3:04:34 PM (CET) Permanent number: 12518	XDS Toolkit
XDS.b_CONS_Retrieve_TLS	XDS.b Document Consumer Retrieve over TLS	The Document Consumer SHALL retrieve successfully a binary document from the document Repository, over TLS transaction	Version : CATS2015 Last Modified : 4/16/15 3:03:59 PM (CET) Permanent number: 12519	XDS Toolkit

3.3.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com /usnistgov/iheos-toolkit2/	Simulator & Validator

3.3.2 Document Source Actor

3.3.2.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XDS.b_SRC_Replace	XDS.b Document Source - Replace Existing Document	Verify that Document Source can issue a document replacement	Version : CATS2015 Last Modified : 4/17/15 2:44:41 PM (CET) Permanent number: 12552	XDS Toolkit
XDS.b_SRC_Submit	Submit one document via XDS.b	Verify that the XDS.b Document Source can submit a single document via Provide and Register Document Set-b transaction.	Version : CATS2015 Last Modified : 4/17/15 4:31:35 PM (CET) Permanent number: 12542	XDS Toolkit

3.3.2.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com/usnistgov/iheos-toolkit2/	Simulator & Validator

3.3.3 Document Repository Actor

3.3.3.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XDS.b_DOC_REPOSITORY	XDS.b - Document Repository	Tests the basic functionalities of the Document Repository actor	Version: CATS2019 Last Modified: 12/26/18 11:11:14 AM (CET) Permanent number: 12738	XDS Toolkit
XDS.b_REP_Do_This_First	XDS.b Document Repository first step	This test is dedicated to the set up of the tooling and lauching of the test plan. Results will be provided in the next tests	Version: CATS2019 Last Modified: 12/26/18 9:51:46 AM (CET) Permanent number: 12715	XDS Toolkit

3.3.3.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com /usnistgov/iheos-toolkit2/	Simulator & Validator

3.3.4 Document Registry Actor

Two options may be selected by the SUT:
- *Patient Identity Feed*
- *Patient Identity Feed v3*

3.3.4.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XDS.b_REG_Do_This _First	XDS.b Document Registry first step	This test is dedicated to the set up of the tooling and the system under test	Version: CATS2019 Last Modified: 12/26/18 9:52:49 AM (CET) (CET) Permanent number: 12711	XDS Toolkit
XDS.b_DOCUMENT_ REGISTRY	XDS.b - Document Registry	Test the basic features required to be supported by the XDS.b Document Registy actor	Version: CATS2019 Last Modified: 12/26/18 5:14:06 PM (CET) Permanent number: 12739	XDS Toolkit

3.3.4.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com /usnistgov/iheos-toolkit2/	Simulator & Validator

3.3.5 Integrated Document Source/Repository Actor

3.3.5.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XDS.b_SRC_Replace	XDS.b Document Source - Replace Existing Document	Verify that Document Source can issue a document replacement	Version : CATS2015 Last Modified : 4/17/15 2:44:41 PM (CET) Permanent number: 12552	XDS Toolkit

3.3.5.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com/usnistgov/iheos-toolkit2/	Simulator & Validator

3.4 Profile PDQ

The Patient Demographics Query Profile enables the query of a patient information server for a list of patients, based on user defined search criteria, and retrieve a patient's demographic information.

The test methods specified in this section are based on the IHE Profile as specified in IHE ITI TF-1:8, section from version 15.0 of this Technical Framework, issued July, 24th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after July 24th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.4.1 Patient Demographic Consumer Actor

One option may be selected by the SUT:
- *Pediatric Demographics*

3.4.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PDQ_PDC_PediatricDemographics	PDQ/PDC Query with Pedriatric Demographics	This test evaluates the capability of the SUT to support the Pediatric Demographics Option	Version : CATS2015 Last Modified : 3/24/15 8:30:42 PM (CET) Permanent number: 12485	Gazelle Patient Manager GazelleHL7Validator
PDQ_PDC_Query	PDQ/PDC Query with various parameters	This test evaluates the capability of the SUT to send a valid query to the PatientManager tool acting as a PDQ supplier	Version : CATS2015 Last Modified : 4/15/15 1:32:57 PM (CET) Permanent number: 12481	Gazelle Patient Manager GazelleHL7Validator

3.4.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle PatientManager	Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator
GazelleHL7Validator	HL7 V2 and V3 Message Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator

3.4.2 Patient Demographic Supplier Actor

One option may be selected by the SUT:
- *Pediatric Demographics*

3.4.2.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PDQ_PDS_ Case1	PDQ/PDS Case 1: Data Found - Single Domain	Test test checks the ability of your system to answer to an exact match query in a single domain	Version : CATS2019 Last Modified : 3/14/19 5:21:40 PM (CET) Permanent number: 12486	Gazelle Patient Manager GazelleHL7Validator
PDQ_PDS_ Case2	PDQ/PDS Case 2: Data Found - Single Domain	Test test checks the ability of your system to answer to a query in a single domain	Version : CATS2019 Last Modified : 3/14/19 5:23:46 PM (CET) Permanent number: 12487	Gazelle Patient Manager GazelleHL7Validator
PDQ_PDS_ Case3	PDQ/PDS Case 3: Unknown Domain	Test test checks the ability of your system to answer to a query with an unknown value in QPD-8	Version : CATS2019 Last Modified : 3/14/19 5:24:10 PM (CET) Permanent number: 12488	Gazelle Patient Manager GazelleHL7Validator
PDQ_PDS_ Continuation_Pointer	PDQ/PDS Continuation Pointer	Test test checks the ability of your system to support the HL7 Query Continuation Pointer Protocol	Version : CATS2019 Last Modified : 3/14/19 5:24:52 PM (CET) Permanent number: 12489	Gazelle Patient Manager GazelleHL7Validator
PDQ_PDS_ PediatricDemographics	PDQ/PDS Pediatric Demographics option	This test checks the ability of your system to support the pediatric demographics option	Version : CATS2019 Last Modified : 3/14/19 5:25:59 PM (CET) Permanent number: 12490	Gazelle Patient Manager GazelleHL7Validator
PDQ_PDS_ Prerequisite	PDQ/PDS Pre-Requisite	This test explains how to configure both your System and the tooling to perform the following test cases in the best conditions	Version : CATS2019 Last Modified : 3/15/19 12:06:20 PM (CET) Permanent number: 12491	Gazelle Patient Manager GazelleHL7Validator

3.4.2.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle PatientManager	Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator
GazelleHL7Validator	HL7 V2 and V3 Message Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator

3.5 Profile PDQ-V3

The Patient Demographics Query-V3 Profile enables the query of a patient information server for a list of patients, based on user defined search criteria, and retrieve a patient's demographic information.

The test methods specified in this section are based on the IHE Profile as specified in IHE ITI TF-1:24, section from version 15.0 of this Technical Framework, issued July 24th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after July 24th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.5.1 Patient Demographic Consumer Actor

One option may be selected by the SUT:
- *Pediatric Demographics*

3.5.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PDQV3_PDC_Pediatric Demographics	PDQV3/PDC Query with Pedriatric Demographics	This test evaluates the capability of the SUT to support the Pediatric Demographics Option	Version : CATS2015 Last Modified : 3/24/15 3:15:45 PM (CET) Permanent number: 12496	Gazelle Patient Manager GazelleHL7Validator
PDQV3_PDC_Query	PDQV3/PDC Query with various parameters	This test evaluates the capability of the SUT to send a valid query to the PatientManager tool acting as a PDQV3 supplier	Version : CATS2015 Last Modified : 4/2/15 11:19:23 AM (CET) Permanent number: 12492	Gazelle Patient Manager GazelleHL7Validator

3.5.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle PatientManager	Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator
GazelleHL7Validator	HL7 V2 and V3 Message Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator

3.5.2 Patient Demographic Supplier Actor

One option may be selected by the SUT:
- *Pediatric Demographics*

3.5.2.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PDQV3_PDS _Case1	PDQV3/PDS Case 1: Data Found - Single Domain	Test checks the ability of your system to answer to an exact match query in a single domain	Version : CATS2019 Last Modified : 3/14/19 5:27:38 PM (CET) Permanent number: 12497	Gazelle Patient Manager GazelleHL7Vali dator
PDQV3_PDS _Case2	PDQV3/PDS Case 2: Data Found - Single Domain	Test checks the ability of your system to answer to a query in a single domain	Version : CATS2019 Last Modified : 3/14/19 5:28:45 PM (CET) Permanent number: 12498	Gazelle Patient Manager GazelleHL7Vali dator
PDQV3_PDS _Case3	PDQV3/PDS Case 3: Unknown Domain	Test checks the ability of your system to answer to a query with an unknown value in otherIDsScopingOrganization	Version : CATS2019 Last Modified : 3/14/19 5:29:07 PM (CET) Permanent number: 12499	Gazelle Patient Manager GazelleHL7Vali dator
PDQV3_PDS _PediatricDe mographics	PDQV3/PDS Pediatric Demographics option	This test checks the ability of your system to support the pediatric demographics option	Version : CATS2019 Last Modified : 3/14/19 5:29:45 PM (CET) Permanent number: 12500	Gazelle Patient Manager GazelleHL7Vali dator
PDQV3_PDS _Prerequisite	PDQV3/PDS Pre-Requisite	This test explains how to configure both your System and the tooling to perform the following test cases in the best conditions	Version : CATS2019 Last Modified : 3/15/19 12:07:35 PM (CET) Permanent number: 12560	Gazelle Patient Manager GazelleHL7Vali dator

3.5.2.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle PatientManager	Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator
GazelleHL7Val idator	HL7 V2 and V3 Message Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator

3.6 Profile PIXv3

The Patient Identifier Cross-Referencing-V3 Profile enables *the cross-referencing of patient identifiers from multiple Patient Identifier Domains.*

The test methods specified in this section are based on the IHE Profile as specified in IHE ITI TF-1:23, section from version 15.0 of this Technical Framework, issued July 24th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after July 24th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.6.1 Patient Id Cross-reference Consumer Actor

3.6.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and test Data with Version and Reference	Supporting Test Tool ID
PIXV3_Query	PIXV3: Patient Identifier Cross-Reference Consumer queries PIXV3 manager	This test checks that your SUT is able to query a PIXV3 manager	Version : CATS2015 Last Modified : 3/23/15 7:43:00 PM (CET) Permanent number: 12515	Gazelle Patient Manager GazelleHL7Validator

3.6.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle PatientManager	Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator
GazelleHL7Validator	HL7 V2 and V3 Message Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator

3.6.2 Patient Identity Cross Reference Manager Actor

One option may be selected by the SUT:
- *Pediatric Demographics*

3.6.2.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PIXV3_Manager_Feed_Merge	PIXV3: Patient Identity Feed HL7V3 - Merge	This test checks that your SUT correctly integrates the Merge message received from a PIX Source	Version : CATS2019 Last Modified : 3/15/19 11:45:20 AM (CET) Permanent number: 12501	Gazelle Patient Manager GazelleHL7Validator
PIXV3_Manager_Feed_W_known_dom	PIXV3: Feed Patient Identifier Cross-Reference Manager with a valid domain	This test checks that your SUT accept feeds for a patient with identifiers from a valid and known domain	Version : CATS2019 Last Modified : 3/15/19 11:46:42 AM (CET) Permanent number: 12502	Gazelle Patient Manager GazelleHL7Validator
PIXV3_Manager_Feed_W_Unknown_dom	PIXV3: Feed Patient Identifier Cross-Reference Manager with an unknown domain	This test checks that your SUT does not accept feeds for a patient with identifiers from an unknown domain	Version : CATS2015 Last Modified : 3/23/15 9:04:20 PM (CET) Permanent number: 12503	Gazelle Patient Manager GazelleHL7Validator
PIXV3_Manager_Query_Case1	PIXV3: Query PIXV3 Manager (Case 1)	This test checks that your SUT correctly answers to PIXV3 queries	Version : CATS2019 Last Modified : 3/15/19 11:43:03 AM (CET) Permanent number: 12505	Gazelle Patient Manager GazelleHL7Validator

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PIXV3_Manager_Query_Case2	PIXV3: Query PIXV3 Manager (Case 2)	This test checks that your SUT correctly answers to PIXV3 queries	Version : CATS2019 Last Modified : 3/15/19 11:47:16 AM (CET) Permanent number: 12504	Gazelle Patient Manager GazelleHL7Validator
PIXV3_Manager_Query_Case3	PIXV3: Query PIXV3 Manager (Case 3)	This test checks that your SUT correctly answers to PIXV3 queries	Version : CATS2019 Last Modified : 3/15/19 11:32:33 AM (CET) Permanent number: 12506	Gazelle Patient Manager GazelleHL7Validator
PIXV3_Manager_Query_Case4	PIXV3: Query PIXV3 Manager (Case 4)	This test checks that your SUT correctly answers to PIXV3 queries	Version : CATS2019 Last Modified : 3/15/19 11:34:36 AM (CET) Permanent number: 12507	Gazelle Patient Manager GazelleHL7Validator
PIXV3_Manager_Query_Case5	PIXV3: Query PIXV3 Manager (Case 5)	This test checks that your SUT correctly answers to PIXV3 queries	Version : CATS2019 Last Modified : 3/15/19 11:36:08 AM (CET) Permanent number: 12508	Gazelle Patient Manager GazelleHL7Validator
PIXV3_Manager_Query_Case6	PIXV3: Query PIXV3 Manager (Case 6)	This test checks that your SUT correctly answers to PIXV3 queries	Version : CATS2019 Last Modified : 3/15/19 11:37:28 AM (CET) Permanent number: 12509	Gazelle Patient Manager GazelleHL7Validator
PIXV3_Manager_Update	PIXV3: Update Patient Identifier Cross-Reference Manager	This test checks that your SUT accept feeds and is able to update patients	Version : CATS2019 Last Modified : 3/15/19 11:39:36 AM (CET) Permanent number: 12510	Gazelle Patient Manager GazelleHL7Validator
PIXV3_Manager_Update_Notificatio	PIXV3 Manager sends update notifications	We are testing the ability of your system to issue PIXV3 Update notification messages to a consumer which registered for such feeds	Version : CATS2015 Last Modified : 3/23/15 8:47:43 PM (CET) Permanent number: 12561	Gazelle Patient Manager GazelleHL7Validator
PIXV3_Manager_Update_unknown_dom	PIXV3: Update Patient Identifier Cross-Reference Manager with an unknown domain	This test checks that your SUT does not accept to update patient demographics when coming from an unknown domain	Version : CATS2015 Last Modified : 3/23/15 8:51:01 PM (CET) Permanent number: 12511	Gazelle Patient Manager GazelleHL7Validator
PIXV3_PDO_BirthInformation	PIXV3: Query PIXV3 Manager PDO (Multiple Birth indicator and birth order)	This test checks that your SUT correctly supports the Pediatric Demographics Option	Version : CATS2019 Last Modified : 3/15/19 3:01:52 PM (CET) Permanent number: 12512	Gazelle Patient Manager GazelleHL7Validator

3.6.2.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle PatientManager	Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator
GazelleHL7Validator	HL7 V2 and V3 Message Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator

3.7 Profile PIX

The Patient Identifier Cross-Referencing Profile enables *the cross-referencing of patient identifiers from multiple Patient Identifier Domains.*

The test methods specified in this section are based on the IHE Profile as specified in IHE ITI TF-1:5, section from Rev. 15 Final Text of this Technical Framework, issued July 24th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after July,24th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.7.1 Patient Identity Cross Reference Manager Actor

3.7.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PIX_Manager_Feed_Merge	PIX: Patient Identity Feed HL7 - Merge	This test checks that your SUT correctly integrates the Merge message received from a PIX Source	Version : CATS2019 Last modified : 3/15/19 11:55:15 AM (CET) Permanent number : 12568	Gazelle Patient Manager GazelleHL7Validator
PIX_Manager_Feed_W_known_dom	PIX: Feed Patient Identifier Cross-Reference Manager with a valid domain	This test checks that your SUT accept feeds for a patient with identifiers from a valid and known domain	Version : CATS2019 Last modified : 3/15/19 11:55:33 AM (CET) Permanent number : 12578	Gazelle Patient Manager GazelleHL7Validator
PIX_Manager_Feed_W_Unknown_dom	PIX: Feed Patient Identifier Cross-Reference Manager with an unknown domain	This test checks that your SUT does not accept feeds for a patient with identifiers from an unknown domain	Version : CATS2016 Last modified : 3/15/19 10:28:11 AM (CET) Permanent number : 12579	Gazelle Patient Manager GazelleHL7Validator
PIX_Manager_Query_Case1	PIX: Query PIX Manager (Case 1)	This test checks that your SUT correctly answers to PIX queries	Version : CATS2019 Last modified : 3/15/19 11:55:58 AM (CET) Permanent number : 12570	Gazelle Patient Manager GazelleHL7Validator
PIX_Manager_Query_Case2	PIX: Query PIX Manager (Case 2)	This test checks that your SUT correctly answers to PIX queries	Version : CATS2019 Last modified : 3/15/19 11:56:19 AM (CET) Permanent number : 12572	Gazelle Patient Manager GazelleHL7Validator
PIX_Manager_Query_Case3	PIX: Query PIX Manager (Case 3)	This test checks that your SUT correctly answers to PIX queries	Version : CATS2019 Last modified : 3/15/19 10:55:12 AM (CET) Permanent number : 12573	Gazelle Patient Manager GazelleHL7Validator
PIX_Manager_Query_Case4	PIX: Query PIX Manager (Case 4)	This test checks that your SUT correctly answers to PIX queries	Version : CATS2019 Last modified : 3/15/19 10:56:49 AM (CET) Permanent number : 12610	Gazelle Patient Manager GazelleHL7Validator

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PIX_Manager_Query_Case5	PIX: Query PIX Manager (Case 5)	This test checks that your SUT correctly answers to PIXV3 queries	Version : CATS2019 Last modified : 3/15/19 11:56:57 AM (CET) Permanent number : 12574	Gazelle Patient Manager GazelleHL7Validator
PIX_Manager_Query_Case6	PIX: Query PIX Manager (Case 6)	This test checks that your SUT correctly answers to PIX queries	Version : CATS2019 Last modified : 3/15/19 3:16:23 PM (CET) Permanent number : 12575	Gazelle Patient Manager GazelleHL7Validator
PIX_Manager_Update	PIX: Update Patient Identifier Cross-Reference Manager	This test checks that your SUT accept feeds and is able to update patients	Version : CATS2019 Last modified : 3/15/19 11:57:31 PM (CET) Permanent number : 12567	Gazelle Patient Manager GazelleHL7Validator
PIX_Manager_Update_Notification	PIX Manager sends update notifications	We are testing the ability of your system to issue PIXV3 Update notification messages to a consumer which registered for such feeds	Version : CATS2016 Last modified : 1/21/16 1:47:53 PM (CET) Permanent number : 12569	Gazelle Patient Manager GazelleHL7Validator
PIX_Manager_Update_unknown_dom	PIX: Update Patient Identifier Cross-Reference Manager with an unknown domain	This test checks that your SUT does not accept to update patient demographics when coming from an unknown domain	Version : CATS2016 Last modified : 4/6/16 12:54:33 PM (CET) Permanent number : 12576	Gazelle Patient Manager GazelleHL7Validator
PIX_PDO_BirthInformation	PIX: Query PIX Manager PDO (Multiple Birth indicator and birth order)	This test checks that your SUT correctly supports the Pediatric Demographics Option	Version : CATS2019 Last modified : 3/15/19 2:57:24 PM (CET) Permanent number : 12577	Gazelle Patient Manager GazelleHL7Validator

3.7.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle Patient Manager	Gazelle Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator
GazelleHL7Validator	HL7 V2 and V3 Message Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator

3.7.2 Patient Identity Cross Reference Consumer Actor

3.7.2.1 List of test cases

Test case ID	Test case name	Test case description	Test Case and Test Data with Version and Reference	Supporting test tool ID
PIX_Query	PIX: Patient Identifier Cross-Reference Consumer queries PIX manager	This test checks that your SUT is able to query a PIX manager	Version : CATS2016 Last modified : 2/10/16 9:26:08 AM (CET) Permanent number : 12566	Gazelle Patient Manager GazelleHL7Validator

3.7.2.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle Patient Manager	Gazelle Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator
GazelleHL7Validator	HL7 V2 and V3 Message Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator

3.8 Profile PAM

The Patient Administration Management Profile enables *the message exchanges to support patient identity and encounter information, as well as movements within an acute care encounter.*

The test methods specified in this section are based on the IHE Profile as specified in IHE ITI TF-1:14, section from Rev. 15 Final Text of this Technical Framework, issued July 24th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after July 24th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.8.1 Patient Demographic Consumer Actor

Two options may be selected by the SUT:
- *Merge*
- *Link/Unlink*

3.8.1.1 List of test cases for Merge option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PDC_Merge	PAM: Identification Management (Merge) for Patient Demographic Consumer	PAM Patient Identification Management, ITI-30 with the MERGE option	Version : CATS2016 Last modified : 4/4/16 11:53:11 AM (CET) Permanent number : 12637	Gazelle Patient Manager GazelleHL7Validator

3.8.1.2 List of test cases for Link/Unlink option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PDC_Link	PAM: Identification Management (Link) for Patient Demographic Consumer	PAM Patient Identification Management, ITI-30 with the LINK/UNLINK option	Version : CATS2016 Last modified : 4/4/16 11:54:22 AM (CET) Permanent number : 12636	Gazelle Patient Manager GazelleHL7Validator

3.8.1.3 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle Patient Manager	Gazelle Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator
GazelleHL7 Validator	HL7 V2 and V3 Message Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator

3.8.2 Patient Demographic Supplier Actor

Two options may be selected by the SUT:
- *Merge*
- *Link/Unlink*

3.8.2.1 List of test cases for Link-Unlink Option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PDS_Link	PAM: Identification Management (Link) for Patient Demographic Supplier	PAM Patient Identification Management, ITI-30 with the LINK/UNLINK option	Version : CATS2016 Last modified : 4/4/16 11:55:08 AM (CET) Permanent number : 12643	Gazelle Patient Manager GazelleHL7Validator

3.8.2.2 List of test cases for Merge Option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PDS_Merge	PAM: Identification Management (Merge) for Patient Demographic Supplier	PAM Patient Identification Management, ITI-30 with the MERGE option	Version : CATS2016 Last modified : 4/4/16 11:55:48 AM (CET) Permanent number : 12646	Gazelle Patient Manager GazelleHL7Validator

3.8.2.3 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle Patient Manager	Gazelle Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator
GazelleHL7Validator	HL7 V2 and V3 Message Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator

3.8.3 Patient Encounter Consumer Actor

Four options may be selected by the SUT:
- *Inpatient/ Outpatient*
- *Maintain demographics*
- *Advanced encounter management*
- *Historic movement*

3.8.3.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PEC_BASIC	PAM: Encounter Management (Basic subset for Patient Encounter Consumer)	Patient Encounter Management, this test uses the trigger events required for all systems implementing ITI-31	Version : CATS2016 Last modified : 4/4/16 11:57:58 AM (CET) Permanent number : 12642	Gazelle Patient Manager GazelleHL7Validator

3.8.3.2 List of test cases with Advanced Encounter Option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PEC_ADVANCE	PAM: Encounter Management (Advanced Encounter Management) for Patient Encounter Consumer	This test is dedicated to the Advanced Encounter Management option defined for the ITI-31 transaction from the PAM profile	Version : CATS2016 Last modified : 4/4/16 11:56:36 AMPermanent number : 12627	Gazelle Patient Manager GazelleHL7Validator

3.8.3.3 List of test cases with Historic Movement Option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PEC_HIST	PAM: Encounter Management (Historic Movement Management) for Patient Encounter Consumer	This test is dedicated to the Historic Movement Management option defined for the ITI-31 transaction from the PAM profile	Version : CATS2016 Last modified : 4/4/16 11:58:21 AM (CET) Permanent number : 12629	Gazelle Patient Manager GazelleHL7Validator
PAM_PEC_HIST_Scutiny	PAM: Encounter Management (Historic Movement) for PEC	This test is used to gather the URL of test instances in which you have been sent the ZBE segment	Version : CATS2016 Last modified : 4/4/16 11:59:52 AM (CET) Permanent number : 12633	Gazelle HL7 Validator GazelleHL7Validator

3.8.3.4 List of test cases with Inpatient Outpatient Option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PEC_IN_OUT	PAM: Encounter Management (Inpatient/Outpatient management) for Patient Encounter Consumer actor	This test is dedicated of the Inpatient:Outpatient management option of the PAM profile.	Version : CATS2016 Last modified : 4/4/16 12:00:08 PM (CET) Permanent number : 12630	Gazelle Patient Manager GazelleHL7Validator

3.8.3.5 List of test cases with Maintain Demographics Option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PEC_MAINTAIN_DEMOG	PAM Encounter - Maintain demographic option for Patient	Maintain Demographics option for the PEC actor	Version : CATS2016 Last modified : 4/4/16 12:00:23 PM (CET)	Gazelle Patient Manager GazelleHL7Valida

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
	Encounter Consumer		Permanent number : 12635	tor

3.8.3.6 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle Patient Manager	Gazelle Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator
Gazelle HL7 Validator	Gazelle HL7 Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator

3.8.4 Patient Encounter Supplier Actor

Four options may be selected by the SUT:
- *Inpatient/ Outpatient*
- *Maintain demographics*
- *Advanced encounter management*
- *Historic movement*

3.8.4.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PES_BASIC	PAM: Encounter Management (Basic subset for Patient Encounter Supplier)	Patient Encounter Management, this test uses the trigger events required for all systems implementing ITI-31	Version : CATS2016 Last modified : 4/4/16 12:01:34 PM (CET) Permanent number : 12628	Gazelle Patient Manager GazelleHL7Validator

3.8.4.2 List of test cases with Advanced Encounter Option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PES_ADVANCE	PAM: Encounter Management (Advanced Encounter Management) for Patient Encounter Supplier	This test is dedicated to the Advanced Encounter Management option defined for the ITI-31 transaction from the PAM profile	Version : CATS2016 Last modified : 4/4/16 12:31:14 PM (CET) Permanent number : 12647	Gazelle Patient Manager GazelleHL7Validator

3.8.4.3 List of test cases with historic movement option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PES_HIST	PAM: Encounter Management (Historic Movement Management) for Patient Encounter Supplier	This test is dedicated to the Historic Movement Management option defined for the ITI-31 transaction from the PAM profile	Version : CATS2016 Last modified : 4/4/16 12:02:04 PM (CET) Permanent number : 12649	Gazelle Patient Manager GazelleHL7Validator
PAM_PES_HI	PAM: Encounter	This test is used to gather	Version : CATS2016	Gazelle HL7

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
ST_Scrutiny	Management (Historic Movement) for PES	the URL of test instances in which you have sent the ZBE segment	Last modified : 4/4/16 12:02:41 PM (CET) Permanent number : 12634	Validator

3.8.4.4 List of test cases with Inpatient Outpatient Option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PES_IN _OUT	PAM: Encounter Management (Inpatient/Outpatient management) for Patient Encounter Supplier	This test is dedicated of the Inpatient:Outpatient management option of the PAM profile.	Version : CATS2016 Last modified : 4/4/16 12:10:27 PM (CET) Permanent number : 12650	Gazelle Patient Manager GazelleHL7Validator

3.8.4.5 List of test cases with maintain demographics option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PAM_PES_M AINTAIN_DE MOG	PAM Encounter - Maintain Demographic option for Patient Encounter Supplier	Maintain Demographics option for the PES	Version : CATS2016 Last modified : 4/4/16 12:07:00 PM (CET) Permanent number : 12651	Gazelle Patient Manager GazelleHL7Validator

3.8.4.6 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle Patient Manager	Gazelle Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator
Gazelle HL7 Validator	Gazelle HL7 Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator

3.9 Profile XCA

The Cross Community Access Profile Supports the means to query and retrieve patient relevant medical data held by other communities. A community is defined as a coupling of facilities/ enterprises that have agreed to work together.

The test methods specified in this section are based on the IHE Profile as specified in IHE ITI TF-1:18, section from Rev. 15 Final Text of this Technical Framework, issued July 24th, 2018 without any additional Final Text Change Proposals.

Final Text CPs that were approved after July 24th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.9.1 Initiating Gateway Actor

3.9.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XC_Read_This_First	XC_Read_This_First	Preparation for XCA, XCPD and/or XCA-I tests	Version : CATS2019 Last modified : 12/12/18 11:52:59 AM (CET) Permanent number : 12654	None
XCA_INIT_FindDocuments_LeafClass	XCA - Initiating Gateway - XGQ FindDocuments for LeafClass	XGQ FindDocuments for LeafClass [12300]	Version : CATS2017 Last modified : 2/15/17 12:51:55 PM (CET) Permanent number : 12723	XDS Toolkit
XCA_INIT_FindDocuments_ObjectRef	XCA - Initiating Gateway - XGQ FindDocuments for ObjectRef	XGQ FindDocuments for ObjectRef [12306]	Version : CATS2017 Last modified : 2/15/17 12:53:08 PM (CET) Permanent number : 12724	XDS Toolkit
XCA_INIT_GetDocuments	XCA - Initiating Gateway - XGQ GetDocuments	XGQ GetDocuments [12307]	Version : CATS2017 Last modified : 2/15/17 12:53:53 PM (CET) Permanent number : 12725	XDS Toolkit
XCA_INIT_Retrieve_multi_Doc	XCA - Initiating Gateway - Cross Gateway Retrieve of multiple documents	Cross Gateway Retrieve of a multiple documents [12308]	Version : CATS2019 Last modified : 3/15/19 3:19:47 PM (CET) Permanent number : 12726	XDS Toolkit
XCA_INIT_Retrieve_Single_Doc	XCA - Initiating Gateway - Cross Gateway Retrieve of a single document	Cross Gateway Retrieve of a single document [12308]	Version : CATS2019 Last modified : 12/27/18 10:09:14 AM (CET) Permanent number : 12589	XDS Toolkit
XCA_INIT_XDS_Aff_Negative_tests	XCA - Initiating Gateway - XDS Affinity Domain Option - negative tests	Testing the IG with the option XDS Affinity Domain - Initiating Gateway negative tests [15814]	Version : CATS2017 Last modified : 2/15/17 1:17:08 PM (CET) Permanent number : 12668	XDS Toolkit
XCA_INIT_XDS_Aff_Query_Single_RG	XCA - Initiating Gateway - XDS Affinity Domain Option - Query Single RG	Testing the IG with the option XDS Affinity Domain - Query Single Responding Gateway test [15808]	Version : CATS2017 Last modified : 2/15/17 1:19:16 PM (CET) Permanent number : 12665	XDS Toolkit
XCA_INIT_XDS_Aff_Ret_Single_RG	XCA - Initiating Gateway - XDS Affinity Domain Option - Retrieve Single RG	Testing the IG with the option XDS Affinity Domain - Retrieve Single Responding Gateway test [15809]	Version : CATS2017 Last modified : 2/15/17 2:06:03 PM (CET) Permanent number : 12666	XDS Toolkit
XCA_INIT_XDS_Aff_SQ_Ret_Two_RG	XCA - Initiating Gateway - XDS Affinity Domain Option - Query and Retrieve Multiple RG	Testing the IG with the option XDS Affinity Domain - Two Responding Gateway Response test [15810]	Version : CATS2017 Last modified : 2/15/17 2:09:13 PM (CET) Permanent number : 12667	XDS Toolkit

3.9.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com/usnistgov/iheos-toolkit2/	Simulator & Validator

3.9.2 Responding Gateway Actor

One option may be selected by the SUT:

- *On-demand documents*

3.9.2.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XC_Read_This_First	XC_Read_This_First	Preparation for XCA, XCPD and/or XCA-I tests	Version : CATS2019 Last modified : 12/12/18 11:52:59 AM (CET) Permanent number : 12654	None
XCA_INIT_Aff_Do_This_First	XCA Responding Gateway (affinity domain option) first step	This test is dedicated to the set up of the tooling and lauching of the test plan. Results will be provided in the next tests	Version : CATS2017 Last modified : 2/15/17 1:14:30 PM (CET) Permanent number : 12734	XDS Toolkit
XCA_RESP_Do_This_First	XCA Responding Gateway first step	This test is dedicated to the set up of the tooling and lauching of the test plan. Results will be provided in the next tests	Version : CATS2019 Last modified : 12/21/18 3:46:46 PM (CET) Permanent number : 12721	XDS Toolkit
XCA_RESPONDING-GATEWAY	XCA - Responding Gateway	Test the basic features required to be supported by the XCA Responding Gateway actor	Version : CATS2019 Last modified : 12/27/18 9:56:51 AM (CET) Permanent number : 12741	XDS Toolkit

3.9.2.2 List of test cases with on-demand documents option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XCA_RESP_OnDemand_Do_This_First	XCA Responding Gateway (On demande option) first step	This test is dedicated to the set up of the tooling and lauching of the test plan. Results will be provided in the next tests	Version : CATS2019 Last modified : 12/27/18 4:39:59 PM (CET) Permanent number : 12735	
XCA_RESPONDING-GATEWAY_ON-DEMAND	XCA - Responding Gateway - On-demand	This test verify the ability of the XCA Responding Gateway to support the "On-Demand" option	Version: CATS2019 Last modified; 12/27/18 4:39:46 PM (CET) Permanent number : 12742	XDS Toolkit

3.9.2.3 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com/usnistgov/iheos-toolkit2/	Simulator & Validator

3.10 Profile XCPD

The Cross Community Patient Discovery Profile enables *the message exchanges to support patient identity and encounter information, as well as movements within an acute care encounter.*

The test methods specified in this section are based on the IHE Profile as specified in IHE ITI TF-1:27, section from Rev. 15 Final Text of this Technical Framework, issued July 24th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after July 24th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.10.1 Initiating Gateway Actor

One option may be selected by the SUT:
- *Deferred Response*

3.10.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XC_Read_This _First	XC_Read_This_ First	Preparation for XCA, XCPD and/or XCA-I tests	Version : CATS2019 Last modified : 12/12/16 11:52:59 AM (CET) Permanent number : 12654	None
XCPD_IG_Que ry	XCPD/IG Query	This test evaluates the capability of the IG SUT to send a valid query to the PatientManager tool acting as a XCPD Responding Gateway	Version : CATS2016 Last modified : 4/7/16 1:05:07 PM (CET) Permanent number : 12653	Gazelle Patient Manager

3.10.1.2 List of test cases with Deferred Response Option

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XCPD_IG_Def erred_Response	XCPD/IG Deferred Response Option	Test the ability of XCPD IG with Deferred Response Option to send valid request	Version : CATS2016 Last modified : 4/7/16 1:04:54 PM (CET) Permanent number : 12655	Gazelle Patient Manager

3.10.1.3 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Patient Manager	Gazelle Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator

3.10.2 Responding Gateway Actor

3.10.2.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XC_Read_This _First	XC_Read_This_Firs t	Preparation for XCA, XCPD and/or XCA-I tests	Version : CATS2019 Last modified : 12/12/16 11:52:59 AM (CET) Permanent number : 12654	None

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XCPD_RG_Deferred_Response	XCPD/RG Deferred Response Option	Test the ability of XCPD RG with Deferred Response Option to receive valid request	Version : CATS2019 Last modified : 3/14/19 5:22:17 PM (CET) Permanent number : 12656	Gazelle Patient Manager
XCPD_RG_ITI55	XCPD/RG ITI-55 requests	Test the ability of the RG to respond to ITI-55 requests	Version : CATS2019 Last modified : 3/14/19 5:16:58 PM (CET) Permanent number : 12645	Gazelle Patient Manager
XCPD_RG_ITI55_responsePriority	XCPD/RG responsePriorityCode processing	The RG SHALL be able to process the responsePriorityCode	Version : CATS2019 Last modified : 3/14/19 5:09:43 PM (CET) Permanent number : 12652	Gazelle Patient Manager
XCPD_RG_Prerequisite	XCPD/RG Prerequisite	This test explains how to configure both your System and the tooling to perform the following test cases in the best conditions	Version : CATS2019 Last modified : 3/15/19 12:04:08 PM (CET) Permanent number : 12644	Gazelle Patient Manager
XCPD_RG_MultipleAA	Discover patient and get matches from multiple assigning authorities	System discovers patient and get matches from multiple assigning authorities	Version : CATS2019 Last modified : 3/14/19 5:12:59 PM (CET) Permanent number : 12710	Gazelle Patient Manager

3.10.2.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle Patient Manager	Gazelle Patient Manager	9.11.1	IHE-Europe	https://gazelle.ihe.net	Simulator

3.11 Profile LAW

The Laboratory Analytical Workflow Profile supports the analytical workflow between analyzers (an IVD device) of the clinical laboratory and the systems managing their work such as a LAS or a LIS. Both patient and quality control (QC) specimens are in scope.

The test methods specified in this section are based on the IHE Profile as specified in IHE PaLM Technical Framework revision 9.0, issued August 7th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after August 7th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Text CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.11.1 Analyzer Actor

3.11.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
LAW_AN_AWOS_Manual	LAW Normal Process With AWOS Manual Entry (for Analyzer)	In this test, the Analyzer participant will enter the AWOS manually, no previous AWOS broadcast is received.	Version : CATS2016 Last modified : 3/17/16 10:50:31 AM (CET) Permanent number : 12614	Order Manager
LAW_AN_AWOS_Update	LAW AWOS Update Prior To Specimen Arrival (for Analyzer)	This test concerns the update of an Analytical Work Order triggering the update of its AWOS.	Version : CATS2016 Last modified : 3/17/16 10:33:30 AM (CET) Permanent number : 12612	Order Manager
LAW_AN_Normal_Process_W_Query	LAW Normal Process When Analyzers Query	In this use case, the Analyzer queries the Analyzer Manager for WOS related to the specimen. The Analyzer Manager sends the scheduled list of AWOS.	Version : CATS2016 Last modified : 3/17/16 10:54:34 AM (CET) Permanent number : 12615	Order Manager
LAW_AN_Reflex_By_Analyzer	LAW Reflex Decided On The Analyzer Immediately After First Run (for Analyzer)	In this test, the Analyzer needs to performs a new test after the first test.	Version : CATS2016 Last modified : 3/17/16 10:20:34 AM (CET) Permanent number : 12617	Order Manager
LAW_AN_Rerun_By_Analyzer	LAW Rerun Decided On The Analyzer Immediately After first Run (for Analyzer)	In this test, the Analyzer performs a second run immediately after the first run.	Version : CATS2016 Last modified : 3/17/16 10:21:32 AM (CET) Permanent number : 12618	Order Manager
LAW_AWOS_PRIORITY_CONFORMANCE	Scrutiny of messages for LAW_AWOS_PRIORITY option	Analyzers implementing the LAW_AWOS_PRIORITY options are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 12:05:35 PM (CET) Permanent number : 12598	Gazelle HL7 Validator
LAW_AWOS_Received_Prior_To_Speci	LAW AWOS Received Prior To Specimen Arrival	In this test, the Analyzer receives the AWOS from the analyzer Manager, performs the test and notifies the Analyzer Manager of the completion of the AWOS.	Version : CATS2016 Last modified : 3/17/16 10:21:40 AM (CET) Permanent number : 12611	Gazelle HL7 Validator
LAW_CONTRIB_SUB_CONFORMANCE	Scrutiny of messages for LAW_CONTRIB_SUB option	Analyzers implementing the LAW_CONTRIB_SUB options are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 12:05:49 PM (CET) Permanent number : 12591	Gazelle HL7 Validator
LAW_DILUTIONS_C	Scrutiny of messages for LAW_DILUTIONS	Analyzers implementing the LAW_DILUTIONS options are	Version : CATS2016 Last modified : 3/7/16	Gazelle HL7

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
ONFORMANCE	option	expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	12:06:01 PM (CET) Permanent number : 12592	Validator
LAW_MASS_SPEC_CONFORMANCE	Scrutiny of messages for LAW_MASS_SPEC option	Analyzers implementing the LAW_MASS_SPEC option are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 12:06:10 PM (CET) Permanent number : 12603	Gazelle HL7 Validator
LAW_PAT_DEM_CONFORMANCE	Scrutiny of messages for LAW_PAT_DEM option	Analyzers implementing the LAW_PAT_DEM options are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 12:06:21 PM (CET) Permanent number : 12593	Gazelle HL7 Validator
LAW_POOL_AN_CONFORMANCE	Scrutiny of messages for LAW_POOL_AN option	Analyzers implementing the LAW_POOL_AN option are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 12:06:32 PM (CET) Permanent number : 12606	Gazelle HL7 Validator
LAW_POOL_NOAN_CONFORMANCE	Scrutiny of messages for LAW_POOL_NOAN option	Analyzers implementing the LAW_POOL_NOAN option are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 12:06:43 PM (CET) Permanent number : 12609	Gazelle HL7 Validator
LAW_RESULT_EXT_CONFORMANCE	Scrutiny of messages for LAW_RESULT_EXT option	Analyzers implementing the LAW_RESULT_EXT option are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 12:06:53 PM (CET) Permanent number : 12605	Gazelle HL7 Validator
LAW_SPECIMEN_CONFORMANCE	Scrutiny of messages for LAW_SPECIMEN option	Analyzers implementing the LAW_SPECIMEN options are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 12:07:05 PM (CET) Permanent number : 12600	Gazelle HL7 Validator
LAW_AM_POOL_NOAN_CONFORMITY	Scrutiny of messages for Analyzer Manager interacting with Analyzer supporting LAW_POOL_NOAN option	Analyzer Managers which communicate with an Analyzer implementing the LAW_POOL_NOAN options are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified 3/7/16 2:24:28 PM (CET) Permanent number : 12608	Gazelle HL7 Validator

3.11.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle HL7 Validator	Gazelle HL7 Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator
Order Manager	Gazelle Order Manager	5.3.0	IHE-Europe	https://gazelle.ihe.net	Simulator

3.11.2 Analyzer Manager Actor

3.11.2.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
LAW_AM_AWOS_Manual	LAW Normal Process With AWOS Manual Entry (for Analyzer Manager)	In this test, the Analyzer participant will enter the AWOS manually, no previous AWOS broadcast is received.	Version : CATS2016 Last modified : 3/7/16 11:59:44 AM (CET) Permanent number : 12621	Order Manager
LAW_AM_AWOS_PRIORITY_CONFORMANCE	Conformance testing of messages for Analyzer Manager interacting with Analyzer supporting LAW_AWOS_PRIORITY option	Analyzer Managers which communicate with an Analyzer implementing the LAW_AWOS_PRIORITY options are expected to transmit some extra data. This test is expected to make sure the produced messages are conformant to the profile.	Version : CATS2016 Last modified : 3/7/16 2:20:27 PM (CET) Permanent number : 12599	Gazelle HL7 Validator
LAW_AM_AWOS_Update	LAW AWOS Update Prior To Specimen Arrival (For Analyzer Manager)	This test concerns the update of an Analytical Work Order triggering the update of its AWOS.	Version : CATS2016 Last modified : 3/7/16 12:01:21 PM (CET) Permanent number : 12624	Order Manager
LAW_AM_CONTAINER_CONFORMANCE	Conformance review of messages for Analyzer Manager interacting with Analyzer supporting LAW_CONTAINER option	Analyzer Managers which communicate with an Analyzer implementing the LAW_CONTAINER options are expected to transmit some extra data. This test is expected to ensure conformance testing for elements described by this option in the messages.	Version : CATS2016 Last modified : 3/7/16 2:21:11 PM (CET) Permanent number : 12602	Gazelle HL7 Validator
LAW_AM_Manual_Urgent_AWOS	LAW Manual Urgent AWOS (For Analyzer Manager)	In this test, the Analyzer Manager receives the Work Order after that the Analyzer has performed the test.	Version : CATS2016 Last modified : 3/7/16 2:22:46 PM (CET) Permanent number : 12623	Order Manager

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
LAW_AM_Normal_Process _W_Query	LAW Normal Process When Analyzers Query (for Analyzer Manager)	In this use case, the Analyzer queries the Analyzer Manager for WOS related to the specimen. The Analyzer Manager sends the scheduled list of AWOS.	Version : CATS2016 Last modified : 3/7/16 2:23:02 PM (CET) Permanent number : 12620	Order Manager
LAW_AM_POOL_AN_CONFORMANCE	Scrutiny of messages for Analyzer Manager interacting with Analyzer supporting LAW_POOL_AN option	Analyzer Managers which communicate with an Analyzer implementing the LAW_POOL_AN option are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 2:23:11 PM (CET) Permanent number : 12607	Gazelle HL7 Validator
LAW_AM_POOL_NOAN_CONFORMITY	Scrutiny of messages for Analyzer Manager interacting with Analyzer supporting LAW_POOL_NOAN option	Analyzer Managers which communicate with an Analyzer implementing the LAW_POOL_NOAN options are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 2:24:28 PM (CET) Permanent number : 12608	Gazelle HL7 Validator
LAW_AM_Reflex_By_Analyzer	LAW Reflex Decided On The Analyzer Immediately After First Run (for Analyzer Manager)	In this test, the Analyzer needs to performs a new test after the first test.	Version : CATS2016 Last modified : 3/7/16 2:24:35 PM (CET) Permanent number : 12625	Order Manager
LAW_AM_REL_OBS_CONFORMANCE	Scrutiny of messages for Analyzer Manager interacting with Analyzer supporting LAW_REL_OBS option	Analyzer Managers which communicate with an Analyzer implementing the LAW_REL_OBS options are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 2:24:41 PM (CET) Permanent number : 12604	Gazelle HL7 Validator
LAW_AM_Rerun_By_Analyzer	LAW Rerun Decided On The Analyzer Immediately After first Run (for Analyzer Manager)	In this test, the Analyzer performs a second run immediately after the first run.	Version : CATS2016 Last modified : 3/7/16 2:24:51 PM (CET) Permanent number : 12626	Order Manager

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
LAW_AM_RR_CONFORMANCE	Scrutiny of messages for LAW_RERUN_REFLEX option	Analyzer Managers implementing the LAW_RERUN_REFLEX options are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 12:03:58 PM (CET) Permanent number : 12596	Gazelle HL7 Validator
LAW_AM_RR_CONTROL_CONFORMANCE	Scrutiny of messages for LAW_AM_RR_CONTROL option	Analyzer Managers implementing the LAW_AM_RR_CONTROL options are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 12:03:34 PM (CET) Permanent number : 12597	Gazelle HL7 Validator
LAW_AM_SPECIMEN_CONFORMANCE	Scrutiny of messages for Analyzer Manager interacting with Analyzer supporting LAW_SPECIMEN option	Analyzer Managers which communicate with an Analyzer implementing the LAW_SPECIMEN options are expected to transmit some extra data. This test is expected to make sure of the conformance of the messages.	Version : CATS2016 Last modified : 3/7/16 12:04:29 PM (CET) Permanent number : 12601	Gazelle HL7 Validator
LAW_AN_AWOS_Update	LAW AWOS Update Prior To Specimen Arrival (for Analyzer)	This test concerns the update of an Analytical Work Order triggering the update of its AWOS.	Version : CATS2016 Last modified : 3/17/16 10:33:30 AM (CET) Permanent number : 12612	Order Manager

3.11.2.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle HL7 Validator	Gazelle HL7 Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator
Order Manager	Gazelle Order Manager	5.3.0	IHE-Europe	https://gazelle.ihe.net	Simulator

3.12 Reserved

3.13 Reserved

3.14 Profile DEC

The Device Enterprise Communication Profile Supports communication of vendor independent, multi-modality Patient Care Devices data to Enterprise Applications using consistent semantics.

The test methods specified in this section are based on the IHE Profile as specified in IHE PCD TF-1:3, section from Rev. 8.0 Final Text of this Technical Framework, issued October 23rd, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after October 23rd, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.14.1 Device Observation Consumer Actor

3.14.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
DEC DOC POI SUT	DEC_DOR_DOC_POI_(DOC_SUT)	Evaluates the capability of a DEC DOC which supports POI to consume valid PCD-01 messages from a DOR and transmit the Accept ACKs.	Version : CATS2016 Last modified : 4/7/16 12:16:36 PM (CET) Permanent number : 12660	PCD Tool
DEC DOC SUT	DEC_DOR_DOC_(DOC_SUT)	Evaluates the capability of a DEC DOC to consume valid PCD-01 messages from a DOR and transmit the Accept ACKs.	Version : CATS2016 Last modified : 4/7/16 12:16:45 PM (CET) Permanent number : 12658	PCD Tool

3.14.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
PCD Tool	PCD HL7	1.6.2	NIST	http://ihe-pcd-precon.nist.gov/PCD-HL7WebPreCon/	Simulator & Validator

3.14.2 Device Observation Reporter Actor

3.14.2.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
DEC DOR POI SUT	DEC_DOR_DOC_POI_(DOR_SUT)	Evaluates the capability of a DEC DOR which supports POI to transmit valid PCD-01 messages to a DOC and consume the Accept ACKs.	Version : CATS2016 Last modified : 4/7/16 12:16:53 PM (CET) Permanent number : 12659	PCD Tool
DEC DOR SUT	DEC_DOR_DOC_(DOR_SUT)	Evaluates the capability of a DEC DOR to transmit valid PCD-01 messages to a DOC and consume	Version : CATS2016 Last modified : 4/7/16 12:17:01 PM (CET)	PCD Tool

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
		the Accept ACKs.	Permanent number : 12657	

3.14.2.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
PCD Tool	PCD HL7	1.6.2	NIST	http://ihe-pcd-precon.nist.gov/PCD-HL7WebPreCon/	Simulator & Validator

3.15 Profile PIV

The Point-of-care Infusion Verification Profile Supports the electronic transfer of infusion parameters from a Bedside Computer assisted Medication Administration (BCMA) system to a general-purpose infusion pump. This capability will reduce errors by eliminating keystroke errors and by increasing the use of automatic dosage checking and increase caregiver productivity.

The test methods specified in this section are based on the IHE Profile as specified in IHE PCD TF-1:4, section from Rev. 9.0 Final Text of this Technical Framework, issued October 23rd, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after October 23rd, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.15.1 Infusion Order Programmer Actor

3.15.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PIV IOP Piggyback SUT	PIV_IOP_IOC_Piggyback_(IOP_SUT)	Evaluates the capability of a PIV IOP to transmit valid PCD-03 messages indicating piggyback to a IOC and consume the Accept Acknowledgement and Application Acknowledgement messages. This test requires one pump.	Version : CATS2016 Last modified : 4/7/16 12:17:33 PM (CET) Permanent number : 12663	PCD Tool
PIV IOP SUT	PIV_IOP_IOC_(IOP_SUT)	Evaluates the capability of a PIV IOP to transmit valid PCD-03 messages to a IOC and consume the Accept Acknowledgement and Application Acknowledgement messages. This test requires two pumps.	Version : CATS2016 Last modified : 4/7/16 12:17:41 PM (CET) Permanent number : 12661	PCD Tool

3.15.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
PCD Tool	PCD HL7	1.6.2	NIST	http://ihe-pcd-precon.nist.gov/PCD-HL7WebPreCon/	Simulator & Validator

3.15.2 Infusion Order Consumer Actor

3.15.2.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
PIV IOC Piggyback SUT	PIV_IOP_IOC _Piggyback_(I OC_SUT)	Evaluates the capability of a PIV IOC to receive valid PCD-03 messages indicating piggyback from an IOP and transmit the Accept Acknowledgement and Application Acknowledgement messages. This test requires one pump.	Version : CATS2016 Last modified : 4/7/16 12:17:10 PM (CET) Permanent number : 12664	PCD Tool
PIV IOC SUT	PIV_IOP_IOC _(IOC_SUT)	Evaluates the capability of a PIV IOC to receive valid PCD-03 messages from an IOP and transmit the Accept Acknowledgement and Application Acknowledgement messages. This test requires two pumps.	Version : CATS2016 Last modified : 4/7/16 12:17:23 PM (CET) Permanent number : 12662	PCD Tool

3.15.2.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle HL7 Validator	Gazelle HL7 Validator	3.5.0	IHE-Europe	https://gazelle.ihe.net	Validator
PCD Tool	PCD HL7	1.6.2	NIST	http://ihe-pcd-precon.nist.gov/PCD-HL7WebPreCon/	Simulator & Validator

3.16 Profile XCA-I

The Cross-Community Access for Imaging (XCA-I) Integration Profile specifies actors and transactions to query and retrieve patient-relevant medical imaging data being held by other communities.

The test methods specified in this section are based on the IHE Profile as specified in IHE RAD TF-1:29, section from Rev. 17.0 Final Text of this Technical Framework, issued July 27th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after July 27th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.16.1 Initiation Imaging Gateway Actor

3.16.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XCA-I_INITIATING_IMAGING_GATEWAY	XCA-I - Initiating Imaging Gateway	Verifies the ability of the XCA-I Initiating Imaging Gateway actor to handle the basic features as described in the technical framework.	Version: CATS2019 Last modified: 12/21/18 3:24:38 PM (CET) Permanent number: 12743	XDS Toolkit

3.16.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com/usnistgov/iheos-toolkit2/	Simulator & Validator

3.16.2 Responding Imaging Gateway Actor

3.16.2.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XCA-I_RESPONDING_IMAGING_GATEWAY	XCA-I - Responding Imaging Gateway	Verifies the ability of the XCA-I Responding Imaging Gateway actor to handle the basic features as described in the technical framework..	Version: CATS2019 Last modified: 12/27/18 10:10:52 AM (CET) Permanent number: 12744	XDS Toolkit

3.16.2.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com/usnistgov/iheos-toolkit2/	Simulator & Validator

3.17 Profile XDS-I.b

The Cross-Enterprise Sharing of Documents for Imaging Profile specifies actors and transactions that allow users to share imaging information across enterprises. This profile depends on the IHE IT Infrastructure Cross-Enterprise Document Sharing (XDS.b) Profile

The test methods specified in this section are based on the IHE Profile as specified in IHE RAD TF-1:18, section from Rev. 17.0 Final Text of this Technical Framework, issued July 27th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after July 27th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.17.1 Imaging Document Consumer Actor

3.17.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XDS-I.b_RAD-55_Wado_RTV_Multi	RAD-55 WADO Retrieve: Multi Image Study	RAD-55 WADO Retrieve: Multi Image Study	Version : CATS2019 Last modified : 11/23/18 4:22:09 PM (CET) Permanent number : 12706	XDS Toolkit
XDS-I.b_RAD-55_WADO_RTV_Single	Imaging Document Consumer RAD-55 WADO Retrieve: Single Image Study	Imaging Document Consumer RAD-55 WADO Retrieve: Single Image Study	Version : CATS2019 Last modified : 11/23/18 4:22:58 PM (CET) Permanent number : 12705	XDS Toolkit
XDS-I.b-RAD-69_RTV_IMG_Multi	Imaging Document Consumer RAD-69 Retrieve Imaging Document Set: Multi Image Study	Imaging Document Consumer RAD-69 Retrieve Imaging Document Set: Multi Image Study	Version : CATS2019 Last modified : 11/23/18 4:06:31 PM (CET) Permanent number : 12709	XDS Toolkit
XDS-I.b_RAD-69_RTV_IMG_Single	RAD-69 Retrieve Imaging Document Set: Single Image Study	RAD-69 Retrieve Imaging Document Set: Single Image Study	Version : CATS2019 Last modified : 11/23/18 3:01:04 PM (CET) Permanent number : 12708	XDS Toolkit
XDS-I.b_Retrieve_KOS_Single_IMG	Imaging Document Consumer Retrieve KOS: Single Image Study	Imaging Document Consumer Retrieve KOS: Single Image Study	Version : CATS2019 Last modified : 11/23/18 2:56:14 PM (CET) Permanent number : 12701	XDS Toolkit

3.17.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com/usnistgov/iheos-toolkit2/	Simulator & Validator

3.17.2 Imaging Document Source Actor

3.17.2.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XDS-I.b_IMG_DO	XDS-I.b tests for the	Required tests for the Imaging Document Source actor	Version: CATS2019 Last modified: 12/19/18	XDS Toolkit

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
C_SOURCE	Imaging Document Source actor		11:48:13 AM (CET) Permanent number: 12748	

3.17.2.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com/usnistgov/iheos-toolkit2/	Simulator & Validator

3.18 Profile XUA

The Cross-Enterprise User Assertion Profile provides a means to communicate claims about the identity of an authenticated principal (user, application, system...) in transactions that cross-enterprise boundaries.

The test methods specified in this section are based on the IHE Profile as specified in IHE ITI TF-1:13, section from Rev. 15.0 Final Text of this Technical Framework, issued July 24th, 2018, without any additional Final Text Change Proposals.

Final Text CPs that were approved after July 24th, 2018 are not in scope of this profile Conformity Assessment. This implies that:

- Systems Under Test may implement such additional Final Test CPs.

- In case, a SUT does not pass a test case due to the implementation of such an additional CP, the Authorized Test Laboratory shall consider the test case passed with a comment.

3.18.1 X-Service Provider Actor

3.18.1.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XUA_Provider_Grand_Access	XUA X-Service Provider - Accept requests with valid assertions	The X-Service Provider will receive ITI-40 Provide X-User Assertion transactions initiated by a Simulator acting as X-Assertion User.	Version : CATS2019 Last modified : 12/21/18 3:35:03 PM (CET) Permanent number : 12731	XDS Toolkit Gazelle STS Patient Manager Gazelle Security Suite
XUA_Provider_Restrict_Access	XUA X-Service Provider Restrict Access	The X-Service Provider will receive ITI-40 Provide X-User Assertion transactions initiated by a Simulator acting as X-Assertion User. Assertions included in requests will be invalid, the provider is expected	Version : CATS2019 Last modified : 12/21/18 3:45:00 PM (CET) Permanent number : 12732	Gazelle Security Suite Gazelle STS

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
		to reject the transaction.		
XUA_X-Service_Provider_Setup	XUA_X-Service_Provider_Setup	This test is a configuration step for X-Service Provider required to perform other XUA tests.	Version : CATS2019 Last modified : 12/7/18 12:45:34 PM (CET) Permanent number : 12730	

3.18.1.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com/usnistgov/iheos-toolkit2/	Simulator & Validator
Gazelle STS	Gazelle Security Token Service	1.1.2	IHE Europe	https://gazelle.ihe.net	Simulator & Validator
Patient Manager	Gazelle Patient Manager	9.11.1	IHE Europe	https://gazelle.ihe.net	Simulator
Gazelle Security Suite	PKI, TLS Simulators, syslog, and ATNA Questionnaire	6.0.2	IHE Europe	https://gazelle.ihe.net/	Simulator

3.18.2 X-Service User Actor

3.18.2.1 List of test cases

Test Case ID	Test Case Name	Test Case Description	Test Case and Test Data with Version and Reference	Supporting Test Tool ID
XUA_User_Provide_Assertion	XUA X-Service User Provide Assertion	X-Service User initiates ITI-40 Provide X-User Assertion transactions to a Simulator acting as X-Assertion Provider.	Version : CATS2019 Last modified : 12/7/18 1:01:09 PM (CET) Permanent number : 12728	XDS Toolkit Gazelle STS EVSClient
XUA_X-Service_User_Setup	XUA X-Service User Setup	This test is a configuration step for X-Service User actor. It is required to perform other XUA tests.	Version : CATS2019 Last modified : 12/21/18 3:54:23 PM (CET) Permanent number : 12727	XDS Toolkit Gazelle STS

3.18.2.2 List of related test tools

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
XDS Toolkit	XDS Tools	7.2.8	NIST	https://github.com/usnistgov/iheos-toolkit2/	Simulator & Validator
Gazelle STS	Gazelle Security Token Service	1.1.2	IHE Europe	https://gazelle.ihe.net	Simulator & Validator
EVSClient	External Validation Service Front-end	5.11.2	IHE Europe	https://gazelle.ihe.net	Validator

4 Support tools

During testing and debugging various support tools may be useful. While they do not test anything themselves, they provide critical means of collecting the information that is needed to progress with testing. These support tools are listed in this section.

Test Tool ID	Test Tool Name	Test Tool Version	Developed by	Test Tool Info Page	Tool Category
Gazelle Test Management	The Gazelle Test Management Test Bed	5.10.0	IHE Europe	https://gazelle.ihe.net	Test Management
Demographic Data Server	Generate fake demographics for testing purposes	4.2.2	IHE Europe	https://gazelle.ihe.net	Data generation
SVS Simulator	Value Set repository	2.1.4	IHE Europe	https://gazelle.ihe.net	Data generation
AssertionManager	Assertion Manager	4.1.0	IHE Europe	https://gazelle.ihe.net	Requirement engineering

Appendix A – Templates

A.1   IHE-CAS Template to Specify Test Cases

Template header to be used by the Test Case designer to specify a test case referenced by the profile/actor pairs test cases included in CAS-2.

A Test Case is made of a series of test scripts (Gazelle calls it a test) to test a specific profile/actor.

A Test Case assembles all test scripts in which the SUT (System under Test) plays one of the ROLES for which the test script has been specified.

Test Case Specification			
Test case Identification	Test Case name	ID issued by IHE	Version assigned by IHE
Test Case Approved	Yes / No	Date	Who
Roles Tested	ROLE1, ROLE2, etc. (a ROLE is a list Actor/Profile/Option combination to which the case applies) *(e.g. for XDS, 3 ROLEs: (1) XDS Doc Source,(2) XDS Doc Repository,(3) XDS Doc Registry)*		

++May be extended with other participants

A.2   IHE-CAS Template to Report Test Case Execution Details

Template for reporting the execution of a test case by an Authorized Laboratory in its detailed report.

The testing of System Under Test will result in a series of such templates.

Note that the yellow elements are those coming from the test case specification template. The "brown" elements, cover the participants which number is specific to the test case.

++May be extended with other participants

Test Case Execution			
Test case Identification	Test Case name	ID issued by IHE	Version assigned by IHE
Test Case Approved	Yes / No	Date	Who approves:
Roles Tested	ROLE1, ROLE2, etc. (a ROLE is a list Actor/Profile/Option combination to which the case applies) *(e.g. for XDS, 3 ROLEs: (1) XDS Doc Source,(2) XDS Doc Repository,(3) XDS Doc Registry)*		
Test Execution	Start/StopTime Stamp	**ID**	Who executes:
Test Results Validation	Time Stamp	**Pass/Fail**	Who validates:
Overall Test Case Execution and Evaluation Notes			
Participant 1	NAME of ROLE NAME tested		
Product Id	Id used in the test result tracking by the Test Laboratory.		
Customer Name	Organization submitting the product for testing		
Product Name	Commercial Product Name		
Version / Release	Commercial Product Version		
Participant 2 (++)	NAME of ROLE NAME tested		
Product Id	Id used in the test result tracking by the Test Laboratory.		
Customer Name	Organization submitting the product for testing		
Product Name	Commercial Product Name		
Version / Release	Commercial Product Version		

A.3   IHE-CAS Template to Summarize Test Execution

This Summary Report template is used by an IHE International Authorized Testing Laboratory to summarize the execution of test cases by a System Under Test.

The word template for this testing report is accessible at:
http://wiki.ihe.net/index.php/Conformity_Assessment_Committee.

IHE International
Conformity Assessment Summary Test Report

[Authorization #]

IHE International Conformity Assessment Program

IHE-CAS-2: [date]

[Test Date]

Company Name
Product Name
Version Number

The product and version documented in this report was tested by an IHE International-authorized testing laboratory in accordance with ISO/IEC 17025 requirements and the IHE Conformity Assessment Scheme (IHE-CAS) to demonstrate conformance with the IHE International profiles and actors identified in this report.

It provides a third-party conformity assessment of the product's adherence to one or more IHE Profiles. It demonstrates that the product is capable of assisting healthcare providers and hospitals in meeting requirements for clinical integration.

Testing was conducted as specified in the IHE-CAS-1 and IHE-CAS-2 documents. Testing consisted of observed demonstrations in a controlled location under normal operating conditions and using approved test tools. Test efforts also included review of test tool results, self-attestation materials and, where applicable, interoperability testing files and audit logs. Testing was constrained to the use of the IHE International technical frameworks specified in IHE-CAS-2 at the time of testing. Any exceptions to these requirements are noted within this test report, when applicable.

About [Test Lab] and [Regional/National Deployment Committee]

[Test Laboratory Name] is authorized by IHE International (Authorization #: [Test Lab Authorization #]) in conjunction with [Name of Deployment Committee], an IHE Deployment Committee, to perform testing of health information technology to IHE International profiles and actors, as specified in the IHE technical frameworks.

Appendix B of this test report will document any specific additional testing requirements per the regional or national IHE Deployment Committee.

For comments or suggestions on this Conformity Assessment program, please contact: [casc-secretary@ihe.net.]

IHE International

Conformity Assessment Summary Test Report

Profiles/Actors Tested for Conformity Assessment

The IHE Authorized Testing Laboratory **[Test Laboratory Name]** verified compliance of:

[Product Name]/[Version] provided for conformity assessment by

[Company] located at **[Address]**

to the selected profile/actor pairs (see table below) for the IHE International Conformity Assessment Program per the testing processes and the test methods specified in CAS-1 **[date]** and IHE-CAS-2 **[date]**.

The System Under Test was made available for test on **[date]**.

Tests were executed between **[date]** and **[date]** at location **[Location City, Country].**

IHE Profile	Actor and *Options*	Test Result
[IHE Domain Name]		
Example: IHE-CT **Consistent Time** *enables system clocks and time stamps of computers in a network to be synchronized (median error less than 1 second).*	Time Client: - *No Option*	Pass, Pass with Comments
[IHE Domain Name] /		
IHE-Profile Tested	Actor 1	Pass, Pass with Comments
	Actor 2	Pass, Pass with Comments
IHE-Profile Tested	Actor 1	Pass, Pass with Comments

IHE International

Conformity Assessment Summary Test Report

Additional Software Required for Testing

The following additional software/options were required by **[Product/Version]** from **[Company]** to assist in demonstrating compliance with the associated conformance requirements by providing the specified functionality:

Software Product and Company	Associated Profiles/Actors	Functionality Provided
None	-	-

IHE International

Conformity Assessment Summary Test Report

Report Summary

[Testing Laboratory], an IHE International Authorized Testing Laboratory attests that **[Company/Product/Version]** successfully passed the test cases identified in this report through attestation, observed demonstration, review of audit logs, and/or interoperability file validations. Testing was conducted using IHE-CAS-1 **[date]** and IHE-CAS-2 **[date]** testing processes and test methods based on ISO/IEC 17025. All test results documented in this report including the exceptions mentioned, are considered formal test results. This test results summary is issued by:

[Name]

Test Lab Authorized Representative

[Health IT Test Lab Manager]

Function/Title

Signature and Date

Please visit www.ihe.org/conformityassessment for the most current information about this IHE Conformity Assessment program.

Copyright [current year] [Test Lab]. All Rights Reserved. Test reports shall not be reproduced except in full, without prior written approval of [Test Lab] or [IHE International]

Test Lab Logo

About [Test Laboratory]

IHE International Authorization #: [Test Lab Authorization #]

Insert text about Test Laboratory, including qualifications, website, and other contact information.

[Insert Test Laboratory Address]

[Insert Test Laboratory Contact information]

Appendix A – Testing Comments

This Appendix documents or references any exceptions identified during testing.

IHE Profile	Actor and Required *Options*	Test Cases Comments	Test Tools
[IHE Domain Name] / [Technical Framework version]			
Example: IHE-CT	Time Client: - *No Option*	Name and Version Name and Version Name and Version Name and Version Pass, Pass with Comments (#)	Name1 and Version Name2 and Version Name3 and Version
[IHE Domain Name] / [Technical Framework version]			
IHE-Profile Tested	Actor 1	Name and Version Name and Version Name and Version Pass, Pass with Comments	Name1 and Version Name2 and Version
	Actor 2	Name and Version Pass, Pass with Comments	Name3 and Version Name4 and Version
IHE-Profile Tested	Actor 1	Name and Version Pass, Pass with Coments	Name1 and Version Name2 and Version

Additional Software Required for Testing with Exceptions:

Software Product and Company	Associated Profiles/Actors	Exception identified during testing
None	None	None

Appendix B: (Optional) Regional/National Extensions Testing

Appendix B of this test report document or reference any specific additional regional or national IHE Deployment Committee testing requirements performed by this testing lab for the named product and version. If not such testing was performed, this Appendix shall be removed.

The test or certification report summaries in this Appendix B fall under the responsibility of [IHE National/Regional Deployment Committee].

Note: The testing of these extensions is related to one or more of the IHE Profiles/Actors object of this IHE International test Report. The testing/certification scheme and supporting test methods used to perform such testing has been specified by the IHE National/Regional Deployment Committee and is distinct from the IHE International scheme and specified test methods.