IHE EUROPE

Integrating the Healthcare Enterprise

Whitepaper on
Connectathon

The IHE Connectathon. What is it? How is it done?

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Integrating the Healthcare Enterprise

Whitepaper on **Connectathon**

Index

What is IHE?

IHE is a world-wide initiative that enables Healthcare IT system users and suppliers to work together to enable interoperability of IT systems. It does this through:

- Careful definition of specific healthcare tasks (use cases).
- Identification of the information and processes required to support those tasks.
- Specification of the necessary information exchange using existing standards and the processing to be performed.
- Annual testing of supplier systems for conformance to the specifications in the **Connectathon** to show evidence-based interoperability

Beginning in the radiology domain back in 1999 **IHE** has expanded into multiple domains and today ten domains are covered, thereby ensuring system interoperability between suppliers and their systems on a very big scale and on an even larger world stage.

Why the Connectathon?

The **Connectathon** gives vendors an opportunity to test the interoperability of their products in a structured and rigorous environment with peer vendors. It also enables the **IHE** Technical Framework itself to be tested in the form of trial implementation/deployment settings.

Participating companies test their implementation of **IHE** Integration Profile specifications against those of other vendors using real-world clinical scenarios.

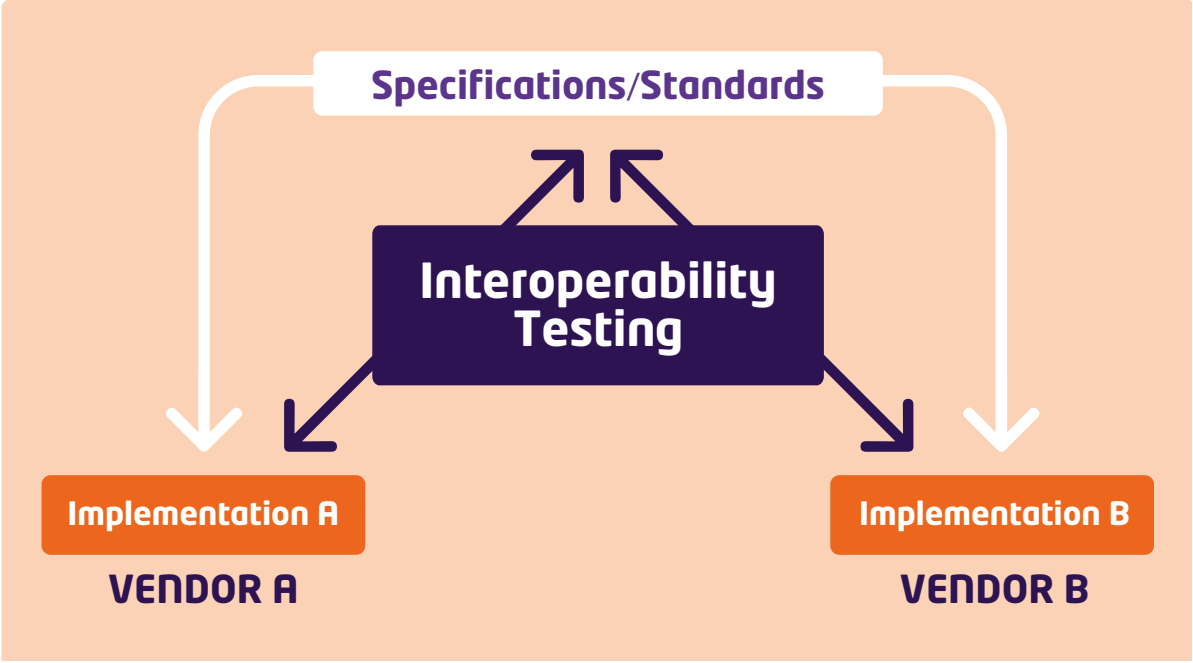
"Connectivity of imaging informations in the era of digital radiology is mandatory and crucial. Interoperability of modalities and IT systems from different vendors is not self-evident. The most favourable approach to have positive experiences is using solutions which have been tested during an IHE Connectathon. Besides the more general eHealth solutions - covered by the IHE-XDS Profiles family - there is a lot ongoing for Radiology, e.g. the new version of the IHE Profile "Scheduled Workflow", Report Templates or Radiation Exposure Monitoring (REM). The European Society of Radiology (ESR), supporting IHE as a sponsor, is following different strategic IT-related projects, e.g. Decision Support, Structured Reporting and esp. dose optimisation (EMAN-Project). As part of EMAN, the IHE REM approach is very relevant, but representation of products supporting REM is still limited. Therefore, more interest by vendors supporting these Profiles would be very helpful to radiologists. This would facilitate discussion at an IHE demonstration at radiology congresses in future."

Dr. Peter Mildenberger

IHE-Europe User Co-Chair, Associate Professor of Radiology, University Medical Center Mainz, Germany

What is the Connectathon?

The **Connectathon's** objective is to test systems' conformity to **IHE** Profiles by using validators and the interoperability between systems or simulators. Clinical workflow is guidance for testing. **IHE** allows test validation in a controlled and neutral environment.



The Connectathon is a Connectivity Test Marathon

- It allows week-long, face-to-face testing of the participating products' interoperability.
- Participants prepare and test with open source test tools and plans provided in advance.
- It encourages vendors, large and small, to work closely together to solve issues.
- Participants are allowed to correct non-conformities during the event.
- Hundreds of transactions are verified using both test tools and peer tests.
- Tests are recorded and outcomes validated by neutral Monitors.
- At the end of the event successful vendors are registered in the **Connectathon** Results Matrix.
- There are sanity checks to see whether the **IHE** Profiles are clear enough and can be implemented consistently.

"Our participation in IHE Connectathons is a key demonstration of our customer commitment to interoperability. Planning a Connectathon sets the pace for IHE-based interoperability innovations, whereas actual Connectathon presence and testing provides a great opportunity to validate latest softwre development efforts.
Add to that the networking opportunities with other software vendors, even including competitors, and you have an industry event that is truly unique."

Harm-Jan Wessels,
Founder and CEO at Forcare

Benefits for the Users of Healthcare IT Systems

- Reduces potential interoperability issues on site.
- Qualifies vendors who have invested in proving their products support **IHE** Profiles.
- Facilitates decision - making for tender responses from competing vendors.
- Saves money and inconvenience through qualified vendor stipulation.
- Gives confidence to the procurement process and subsequent deployment.
- Flags vendors who have been through **Connectathons** and peer group reviews.

Benefits for the Company's Product Development of Implementing and Testing IHE Profiles

Specific Benefits

- Reduced development cost and time-to-market by implementation of one connectivity method.
- Accelerated testing through the **Connectathon**'s structured and supervised testing environment. Minutes of testing can save months of in-company effort on the question: **Have we correctly implemented these IHE Profiles?**
- Independent product testing by qualified test specialists and proven test tools ensures product quality and drives down implementation cost.
- Ensures your products continue to meet the expanding base of **IHE** Profiles.
- Facilitates comprehensive interoperability tests with many peers in the industry. This allows for better preparation and avoids system integration at customer sites.

General Benefits

- **IHE** Profiles enable seamless and secure exchange of health information for both providers and patients across the globe and provide access to a world-wide eHealth market.
- Successful vendors are registered in the Connectathon Results Matrix →.
- You can demonstrate market leadership in the industry on interoperability feature adoption.
- Networking opportunities with industry leading professionals during the week-long event.

"As for Arsenàl.IT the collaboration with IHE is chiefly important in the development of the Fascicolo Sanitario Elettronico regionale (regional Electronic Health Record) project. We can apply international standards and know-how that make designing and planning solutions much easier drop more, reducing the time gap of implementation by applying solutions recognised at international level.

In this context the Connectathon represents a chance for Arsenàl.IT to enhance our know-how as regards test and labelling mainly for our associated members, all the 23 public local Health Authorities and Hospital Trusts of the Veneto Region. Indeed, having the chance to discuss and collaborate with suppliers with a wide experience in implementing standards at international level guarantees to set up our working method in a better way, providing the best solutions in a shorter time".

Claudio Saccavini,
Technical Director of Arsenàl.IT, Veneto's Research Centre for eHealth Innovation

- The ability to gain deep insights from the world leading experts on **IHE** Profile requirements.
- Enhance credibility about **IHE** Profile implementation competency towards customers when you register your products in the **IHE** Product Registry →.
- Country, region and hospital tender procedures increasingly demand independent demonstration of **IHE** Profile implementation competency.

Overall Industry Benefits

- VIP tours of the Connectathon floor together with industry leaders.
- Event that is recognised among the international healthcare community.
- Shared experiences with over 350 of the industry's top professionals on-site.
- Demonstrates industry uptake of interoperability features.
- Being part of the emerging healthcare consensus in standards and interoperability.
- The greater the number of vendors participating, the better the standards of interoperability in the market place between vendors, leading to enhanced benefits for patients and healthcare staff.

Which IHE Profiles will be Tested?

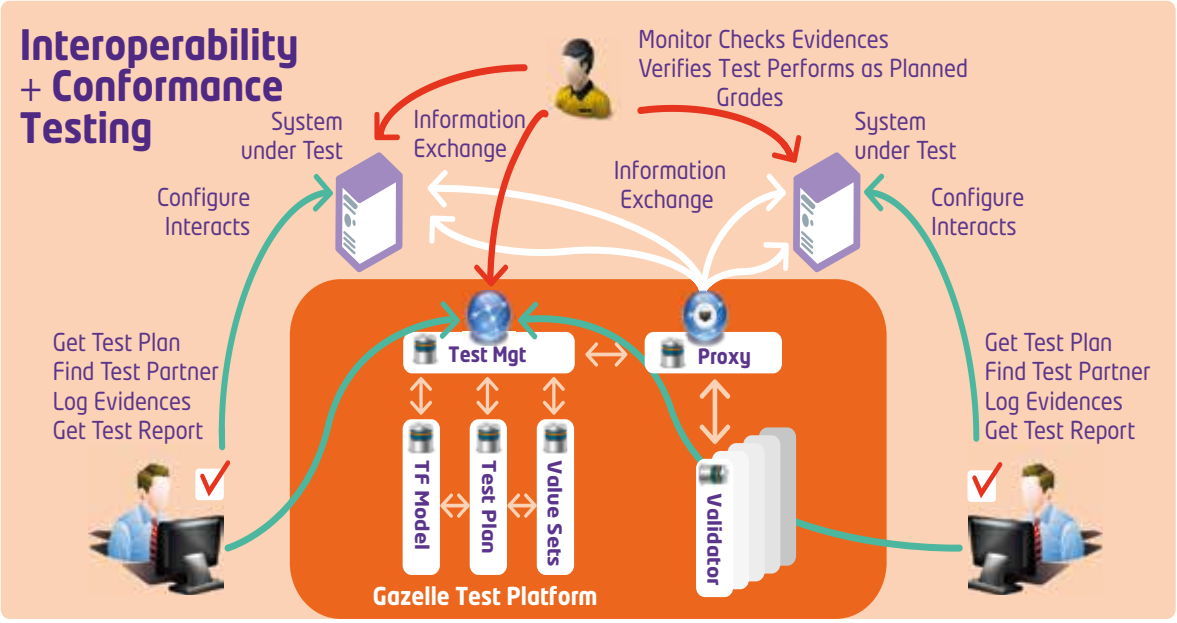
- Those Profiles for which the vendors have registered.
- Sometimes sponsoring organisations and vendors work together to specify Profiles that should be tested.
- Vendors have freedom to select the Profiles they want to test.
- Every year **IHE's** international team of experts develops new Profiles which are available for testing.
- In 2015 IT Infrastructure, Radiology, Cardiology, Patient Care Coordination, Pathology, Laboratory, Pharmacy, Patient Care Devices and Dental will be the featured domains.
- Relevant **IHE** Profiles which are used in "user and buyer" communities and reflect the challenges in eHealth will also be available for testing.

"Hosting the European IHE Connectathon 2016 was a great challenge and made us very proud. For over 13 years IHE-Germany has concentrated on the deployment of IHE Profiles and concepts in a number of Healthcare IT environments. The Connectathon in Bochum (April 11-15, 2016) gave all vendors and providers in Europe a centralised place to test their products and solutions as well as the opportunity to come together and connect within the largest European community in Healthcare Interoperability. It was a great event that pushed the Healthcare IT markets in Germany and across Europe."

Alexander Ihls,
Vendor Co-Chair (IHE Deutschland e.V.)

How are the Tests Performed?

The **Connectathon** test platform using test management software system is called **Gazelle** →
Essentially, there is a variety of tools, e.g. validation tools to verify that messages/documents are in conformity with specifications as well as simulator tools to test the interoperability of an application, not as a reference implementation but as a controlled test case.
During the **Connectathon**, testing is performed using the **Gazelle** Test Bed. The **Gazelle** suite of tools provides **Connectathon** participants, Monitors and the management with the tooling to run the event. Participants share configurations, samples and identify test partners through the **Gazelle** test management tool. The tool provides them with a list of tests to be performed and enables them to log evidences of the tests performed. Participants are free to run the test at their own pace.
Monitors, who are subject-matter experts, verify each test. As for the participants, they have the ability to check the conformance of the exhanged messages that are most critical, using validation services.
The Management Team is provided with indicators that allow them to monitor the testing progress and grade the participants.



Please check our videos of some recent **Connectathons** in Barcelona, Bern, Istanbul.
More details can be found on the Connectathon website.

"The NHS in England has long been a supporter of the use of standards in healthcare IT, particularly in the areas of interoperability and terminologies like SNOMED CT. Under the Health and Social Care Act 2012, NHS England has dedicated powers in terms of approving information standards, which enables these to be mandated for use. There is also a requirement for open and transparent consultation, and robust and tested implementation plans to ensure the information standard is fit for use in the English health and social care system. Activities that add value to and demonstrate compliance with this requirement should be supported where practical."

Kathy Farndon,
Head of Health Information Standards and Governance, NHS England, UK

The IHE Connectathon Test Process

IHE Community - A Networking Opportunity

3020	105	83	360	54	23
tests performed	systems	companies	participants	Monitors	countries

The **Connectathon** is a forum where vendors and their technical specialists can exchange implementation experiences and where participants effectively share samples – for example radiology images and HL7 CDA documents. These will be checked for conformance to **IHE** Profiles using the validation software. It is common for engineers to discuss their own technical issues and to work on the fly with engineers, often from competing organisations, but without commercial pressure.
Even though all of them are committed **IHE** members, none of them are commercially aligned.
They have many years of experience, often in a commercial environment.

The desire to succeed is the spirit that is present amongst all participating vendors.
The Monitors are not looking to fail anyone, and the "help-each-other-mentality and stay-until-it-works-mentality" are paramount amongst those present. After all, problems one vendor may experience today may invariably arise for another vendor tomorrow.

There is also the opportunity to meet other experts involved in European projects, e.g. epSOS, eHGI, Trillium Bridge, Antilope.

It is important to recognise that the work is done on a Domain-specific basis and in Domain-specific sessions, where Monitors with Domain experience are using their skills, experience from previous **Connectathons** and expertise in their own field to bring success to all.

"Semantic interoperability is of utmost strategic importance for Deutsche Telekom Healthcare Solutions. Therefore, we decided to develop a platform that is strongly oriented on IHE Profiles like XDS.b, PIX/PDQ and others. After we tested our eHealth Composite (eHC) platform successfully at the IHE-Europe Connectathon we can assure our customers in their decisions to build new services with interoperable interfaces. Our participation at IHE Connectathons and the usage of HL7 CDAs ensures our offerings are future proofed.

Dr. Axel Wehmeier
Speaker of the Management Board, DTHS

There are approximately 50 Monitors trained in dedicated sessions each year. Whilst the Monitors are there to help, they are also totally independent and objective in their decisions. Ultimately, they have to carry out testing checks that are a pass or a fail.

Monitors are assigned to tests based on their own competencies and skill set. Vendors have to convince them that the work they are effectively grading is soundly based; successful vendors will always have their logs ready to run, replay and replay again if necessary.

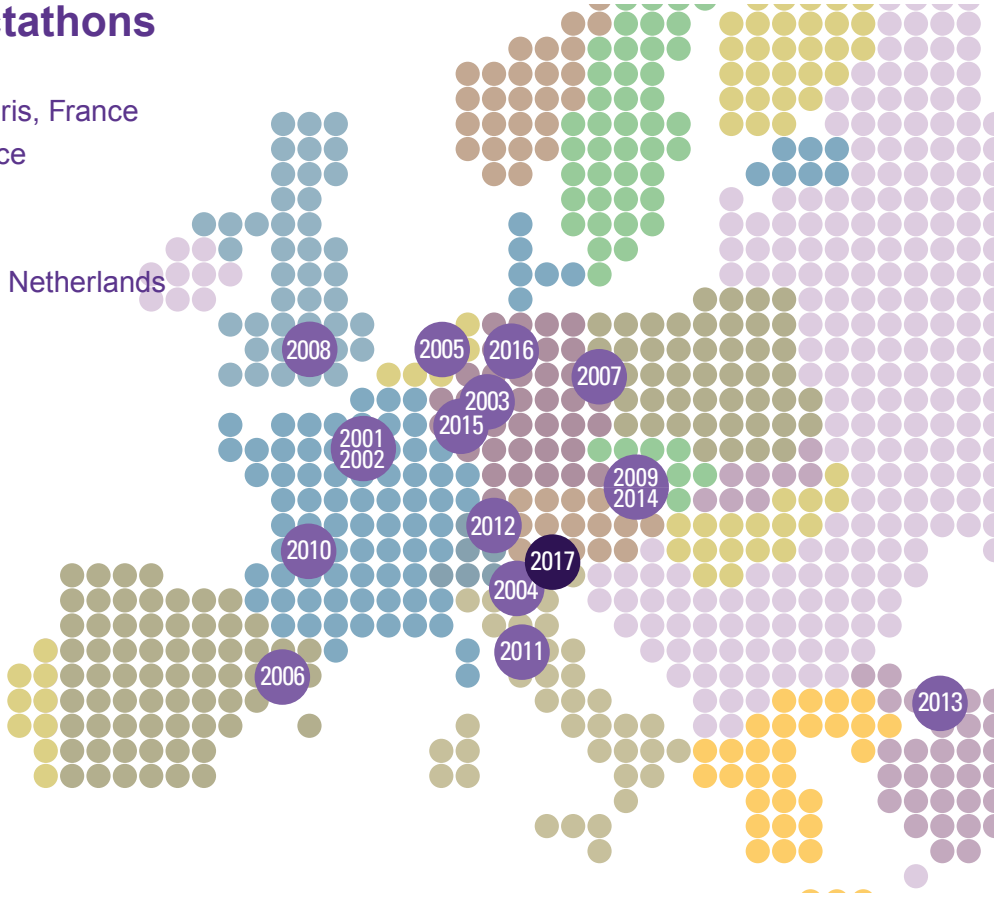
2016 Connectathon Monitors with Eric Poiseau, IHE-Europe Technical Manager.

"ELGA GmbH is responsible for the introduction and implementation of the electronic health record (ELGA) in Austria and has relied on IHE standards since 2007. Due to the federal organisation of the healthcare system in Austria, ELGA is designed as a distributed system with central components for patient and healthcare provider identification and authorisation management. The core building blocks are composed of numerous IHE XDS affinity domains containing the health records and some central components like the master patient index, the healthcare provider index, the access control system and the citizen portal. Communication between the core components strictly follows the rules of IHE Profiles, whereas the communication between the affinity domains and the systems at the point of care (hospital information systems etc.) today is still proprietary. The Connectathon 2014 in Vienna provides the perfect testing ground to prove interoperability according to IHE Profiles. Companies which have successfully participated in a Connectathon will have a competitive advantage as IHE compliance is increasingly regarded as a success factor in calls for tenders."

Hubert Eisl,
Managing Director ELGA GmbH, Austria

European Connectathons

2001: Charenton-le-pont Paris, France
2002: Villejuif in Paris, France
2003: Aachen, Germany
2004: Padova, Italy
2005: Noordwijkerhout, The Netherlands
2006: Barcelona, Spain
2007: Berlin, Germany
2008: Oxford, UK
2009: Vienna, Austria
2010: Bordeaux, France
2011: Pisa, Italy
2012: Bern, Switzerland
2013: Istanbul, Turkey
2014: Vienna, Austria
2015: Luxembourg
2016: Bochum, Germany
2017: Venice, Italy



Results registration in the Results matrix

IHE communicates the vendors' participation in **Connectathon** at the company level.
IHE will register and disclose the **IHE** Profiles, actors and options that have succeeded at the **Connectathon** in the **Connectathon Results Matrix →**.
Vendors who tried and learned during the **Connectathon** week that more thorough implementation work is needed to succeed are encouraged to participate again next time and to undertake more dedicated trialling beforehand. **IHE** will not disclose any failures to comply.

"IHE Connectathons have been useful for us in three different ways. First, as a national Healthcare IT player it is crucial for us to closely follow the development of the latest standards and application guides. IHE Connectathon results help us to estimate the maturity levels of different IHE Profiles, their current momentum and future potential. Second, while evaluating software acquisitions for our needs, it is important for us to study the Connectathon history of different software vendors. And finally, we can participate in Connectathons ourselves as a national implementer of Healthcare IT services - we did just that twice while developing the Finnish epSOS NCP (national contact point). It's been an amazing experience, both as a good start for testing our implementation against NCPs of other countries, and as a socially important event, with side activities and meetings with other projects and communities, often present close to the Connectathon venue."

Konstantin Hyppönen, PhD
IHE Finland Co-Chair, Senior IT Specialist Kela, Kanta Services Finland

IHE Integration Statements and the IHE Product Registry

Vendors publish "**IHE integration Statements**" to declare the conformity of their products to specific **IHE** Profiles. Participation in the **Connectathon** will, of course, greatly increase the vendor's credibility when these **IHE** Integration Statements are created for their products.
A template of an **IHE** Integration Statement is available at: **http://tinyurl.com/62ymvtc.**
The **IHE** Integration Statements are intended to be made public on the corporate website of the vendor. Potential customers of products with implemented **IHE** Profiles can easily search for vendors and products in the IHE Product Registry →. Vendors are encouraged to enter their available, released products in this registry with an **IHE** Integration Statement. It can be linked to the **Connectathon** where the vendor's capability has been demonstrated.

IHE Domains with their Solution Profile Specifications

IHE is organised by clinical and operational Domains. In each Domain users with clinical and operational experience identify integration and information sharing priorities and whereas vendors of relevant information systems develop consensus, and standards-based solutions to address them.
Each Domain includes a Technical Committee, whose primary task is developing and documenting the solutions (known as Integration Profiles), and a Planning Committee, whose primary tasks are long-term planning and organising deployment activities (such as testing events and educational programs). Each Domain develops and maintains its own set of Technical Framework documents. Coordination among the domains is the responsibility of the Domain Coordination Committee, comprising representatives from each of the Domain Planning and Technical Committees. The official and complete **IHE** Technical Framework documents are available at: **http://www.ihe.net/Technical_Frameworks.**

Below you find the brief descriptions of the IHE Profiles that have been published in trial implementation or final text versions.

IHE Connectathons are interoperability coming alive. The implementation of the "Swiss eHealth Strategy" would not be possible without IHE and its Integration Profiles. In the federated healthcare system in Switzerland the national Electronic Health Record (EHR) will not be a centralised file but a virtual record that is put together from many sources at the moment of a request. This allows a step-by-step process on the way to a national EHR. To guarantee national interoperability, regional IHE XDS affinity Domains are important building blocks. But for many other reasons IHE is the way to build the future. Information management in healthcare today is more and more complex. Vendors are no longer in the position to deliver a single product that covers all the needs of their customers. The participation at IHE Conncetathons brings former locked-in solutions into the world of interoperability – in the interest of users and vendors.

Adrian Schmid
Head of "eHealth Suisse" (Swiss Coordination Office for eHealth)

IT Infrastructure

The IT Infrastructure domain in **IHE** addresses cross-enterprise document sharing, security and privacy assurance methods, provider and patient identity, and workflow management. The **IHE** Cross-Enterprise (XD*) Profiles that **IHE** IT Infrastructure provides are the basis of numerous regional health information exchange solutions with repositories, registries and patient portals all over the world. The edge-systems in radiology, laboratory, cardiology, and pharmacy connect to these regional health information exchanges.

IHE IT Infrastructure Profile Highlights

See all the profiles recommended by the EU. In addition, the following Profiles shall be highlighted:

- **Add RESTful Query to ATNA:**
  - This supplement updates the Audit Trail and Node Authentication (ATNA) Profile defining a standardised way to retrieve audit messages collected by an Audit Record Repository.
- **Care Services Discovery (CSD):**
  - Supports queries across related directories containing data about organisations, facilities, services and providers.
- **Cross-Community Document Reliable Interchange (XCDR)**:
  - Provides the capability to send a set of documents in a Cross-Community environment.
- **Patient Administration Management (PAM):**
  - Establishes the continuity and integrity of patient data and additional information such as related persons (primary caregiver, guarantor, next of kin, etc.)
- **Internet User Authorisation (IUA):**
  - Provides user authorisation for RESTful interface. It can be implemented in conjunction with MHD.
- **Mobile access to Health Documents (MHD):**
  - Provides a RESTful interface to document sharing including XDS.
- **Document Metadata Subscription (DSUB):**
  - Describes the use of subscription and notification mechanisms for use within an XDS Affinity Domain-and across communities. Added Pull Notification.

Given Luxembourg's cosmopolitan environment and its huge amount of cross-border commuters, it is of utmost importance to us that the software solutions required for our national interoperability platform are compliant with international interoperability standards, so as to facilitate a cross-border use at a later stage. We consider the Connectathon as one of the cornerstone events for interoperability and conformance testing. And it is even more than just a testing event: it also offers a valuable opportunity to meet other Healthcare IT experts, and share knowledge and experiences with them.

Heiko ZIMMERMANN

Agence eSanté is responsible for the implementation of the Luxembourg national eHealth platform - including a.o. the electronic health record (DSP) - which heavily relies on the compliance with IHE profiles.

- **Cross Enterprise Workflow (XDW):**
  - Coordinates human and applications mediated workflows across multiple organisations.
- **Healthcare Provider Directory (HPD):**
  - Supports discovery and management of healthcare provider information, both individual and organisational, in a directory structure.

For a complete overview of the solutions provided by all **IHE** IT Infrastructure Profiles, go to: http://wiki.ihe.net/index.php?title=Profiles#ihe_IT_Infrastructure_Profiles.

Radiology

The Radiology Domain in **IHE** addresses the needs for workflow coordination and image/information sharing, viewing, processing and quality improvement in the radiology practice, both within the radiology department and beyond the healthcare enterprise in a regional healthcare delivery setting. The systems involved are acquisition modalities, PACS-es, procedure scheduling systems, RIS-es, viewing and diagnostic reporting workstations and portals with advanced clinical post-processing applications.

IHE Radiology Profile Highlights

- **Mobile access to Health Documents for Imaging (MHD-I):**
  - Maps DICOM WADO (URI and RESTful) transactions for retrieving images to IHE.
- **Digital Breast Tomosynthesis (DBT):**
  - Specifies creation, exchange, display and use of DBT images, the new volumetric mammography technology.
- **Scheduled Workflow.b (SWF.b)**:
  - Integrates ordering, scheduling, imaging acquisition, storage and viewing for radiology exams. New is the permission to only use HL7 v2.5.1 and the inclusion of the reconciliation of the patient record when images are acquired for unidentified (e.g. trauma) or misidentified patients.
- **Management of Radiology Report Templates (MRRT):**
  - Definition and interchange of radiology report templates
- **Invoke Image Display (IID)**:
  - Allows the user of a non-image-aware system like an EHR, PHR or RIS to request the display of studies for a patient and have the display performed by an image-aware system like a PACS.

Participation in IHE and to IHE Connectathons are both key elements in Dedalus' international interoperability strategy. Dedalus strongly supports international standards and the value of the Connectathon is tangible in the product design, development and testing as well as in proving our interoperability capability to our clients. Dedalus is operating in a variety of settings and markets worldwide and IHE and the Connecathon are valuable tools to help communicate with users and decision-makers on the value of interoperability. Connectathons are seen by our partners, clients and users as a way to effectively deploy interoperability products that work and thus greatly reducing deployment risks.

Lapo BERTINI
IHE-Europe Deputy Vendor Co-Chair, Business Manager of Dedalus Healthcare Systems Group, Italy

- **Stereotactic Mammography Image (SMI)**:
  - Provides post-procedural review of stereotactic mammography images on general-purpose (PACS) workstations.
- **Post-Acquisition Workflow plus Application Hosting (PAWF)**:
  - Provides worklists, status and result tracking for post-acquisition tasks and application hosting.
- **Cross-enterprise Document Sharing for Imaging.b (XDS-I.b)**
  - Extends ITI Profile XDS to share images, diagnostic reports and related information across a group of care sites.
- **Cross-Community Access for Imaging (XCA-I)**
  - Extends ITI Profile XCA to share images, diagnostic reports and related information across communities.
- **Cross-enterprise Reliable Document Interchange (XDR-I)**
  - Extends ITI Profile XDR to push images, diagnostic reports and related information between healthcare providers.

For a complete overview of the solutions provided by all **IHE** Radiology Profiles, go to: http://wiki.ihe.net/index.php?title=Profiles#ihe_Radiology_Profiles.

Cardiology

The Cardiology Domain in **IHE** addresses the needs for workflow coordination and image/information sharing, viewing, processing, procedure reporting and quality improvement in the cardiology practice, both the in-patient and the ambulatory cardiology practice beyond the healthcare enterprise in a regional healthcare delivery setting. The systems involved are acquisition modalities, stress-test systems, hemodynamics systems, hybrid intervention suites, (mini)-PACS-es, VNAs, procedure scheduling systems, CIS-es, ambulatory office EHRs, viewing and diagnostic reporting workstations, portals with advanced clinical post-processing applications and intervention support applications.

IHE Cardiology Profile Highlights

- **Registry Submission Content – CathPCI (RSC-C):**
  - Specifies the HL7 CDA content structure and value sets for reporting the data elements collected during a cardiac catheterisation and/or PCI to the NCDR.
- **Image-Enabled Office (IEO)**:
  - Bi-directional integration of medical imaging equipment and office EHR using Web technologies.
  - Applies to cardiology, orthopedics, women's health, gastroenterology and primary care.
- **Cath Report Content (CRC)**:
  - Defines an HL7 CDA structured report (XML) to facilitate consistency, accuracy, and semantic interoperability of diagnostic cath, angiography and PCI procedure reports and findings.
- **Cardiac Image Report Content (CIRC)**:
  - Defines an HL7 CDA structured report (XML) to facilitate consistency, accuracy, and semantic interoperability of imaging findings.

For a complete overview of the solutions provided by all **IHE** Cardiology Profiles, go to:
http://wiki.ihe.net/index.php?title=Profiles#ihe_Cardiology_Profiles.

Laboratory

The Laboratory Domain in **IHE** addresses information sharing and workflow related to in vitro diagnostic testing performed in clinical laboratories as well as point of care testing.
The systems involved are EHR Systems in hospital and ambulatory care settings, clinical lab and public health lab, robotic specimen container distributers, automated devices in the laboratory work area, IVD analyzers, and middleware systems handling a set of analyzers.

IHE Laboratory Profile Highlights

- **Inter-Laboratory Workflow (ILW)**:
  - Supports the workflow of orders and results with a subcontracting laboratory.
- **Laboratory Analytical Workflow (LAW)**:
  - Workflow of test orders and results with IVD specimens on Analysers and LIS
- **Cross-enterprise Lab Document Sharing (XD*-LAB):**
  - A CDA-based lab result document to be shared with XDS.

For a complete overview of the solutions provided by all **IHE** Laboratory Profiles, go to:
http://wiki.**ihe**.net/index.php?title=Profiles#**ihe**_Laboratory_Profiles.

Patient Care Devices

The Patient Care Device Domain in **IHE** is concerned with use cases in which at least one actor is a regulated patient-centric point-of-care medical device that communicates with clinical information systems managing medical records or nursing. The Device Enterprise Communication (DEC) Profile and other related PCD Profiles ensure the standardised flow of structure device data for over 200 different types of devices that are increasingly adopted by the market both in care delivery and home (used by Continua Health Alliance).

For a complete overview of the solutions provided by all **IHE** Patient Care Devices Profiles, go to:
http://wiki.**ihe**.net/index.php?title=Profiles#**ihe**_Patient_Care_Device_Profiles.

Pharmacy

The Pharmacy Domain in **IHE** addresses information sharing, workflow and patient care in both community and hospital pharmacies. The objective is to develop ways to automate collaborative workflow between physicians and pharmacists in both the community and hospital pharmacy environment.

IHE Pharmacy Profile Highlight

- **Pharmacy Medication List (PML):**
  - Describes the content and format of a medication list document generated during a process in which a healthcare professional (physician, pharmacist, nurse, etc.) requests

this information (e.g. to support its prescription).

- **Community Medication Prescription and Dispense (CMPD)**:
  - Integrates prescription, validation and dispensation of medication in the ambulatory sector. The Profile is intended to be used with Pharmacy Prescription (PRE), Pharmacy Pharmaceutical Advice (PADV) and Pharmacy Dispense (DIS).

For a complete overview of the solutions provided by all **IHE** Pharmacy Profiles, go to: http://wiki.**ihe**.net/index.php?title=Profiles#**ihe**_Pharmacy_Profiles.

Anatomic Pathology

The Anatomic Pathology Domain in **IHE** addresses collaborative work in Anatomic Pathology, based on the creation and sharing or exchange of electronic information, including data and images, during the complex workflow from specimen reception to report transmission, storage and analysis. This includes surgical pathology, cytopathology, autopsy, electron microscopy and molecular pathology. The goal is a comprehensive electronic pathology record of the patient, of which images may be a significant part.

IHE Anatomic Pathology Profile Highlights

- **Anatomic Pathology Workflow (APW)**:
  - Integrates ordering, imaging and reporting for basic pathology exams.
- **Anatomic Pathology Reporting to Public Health (ARPH)**:
  - Transmits anatomic pathology reports to public health organisations (cancer registries, centres for disease control, screening organisations, etc).
- **Anatomic Pathology Structured Report APSR**:
  - Defines templates for anatomic pathology structured reports for cancers, benign neoplasms and non-neoplastic conditions.

For a complete overview of the solutions provided by all **IHE** Anatomic Pathology Profiles, go to: http://wiki.**ihe**.net/index.php?title=Profiles#**ihe**_Anatomic_Pathology_Profiles.

Patient Care Coordination

The Patient Care Coordination Domain in **IHE** addresses integration issues that cross providers, patient problems or time, with general clinical care aspects including document exchange, order processing, and coordination with other specialty domains. It addresses workflows that are common to multiple specialty areas and the integration needs of specialty areas that do not have a separate domain within **IHE**.

IHE Patient Care Coordination Profile Highlights

- **Patient Care Plan (PtCP)**:
  - Defines a centralised patient care plan and provides a method to reconcile and consolidate the many disparate care plans that can be attached to a patient.
- **Early Hearing Detection and Intervention-Workflow Definition (EHDI-WD)**:
  - Is built upon the ITI XDW and specifies a standard workflow to orchestrate the collection and exchange of newborn hearing screening information between clinical and EHDI program public health information systems.

- **CCDA Harmonisation**:
  - Updates **IHE** PCC Templates to be consistent with the most recent version of HL7 templates published in the **IHE** Health Story Consolidation Implementation Guide.
- **Retrieve Clinical Knowledge (RCK)**:
  - Describes how Healthcare IT systems, Personal Health Records, and HIEs can retrieve clinical knowledge on a topic suitable for presentation to a clinician or patient.

For a complete overview of the solutions provided by all **IHE** Patient Care Coordination Profiles, go to: **http://wiki.ihe.net/index.php?title=Profiles#ihe_Patient_Care_Coordination_Profiles.**

Quality, Research and Public Health

The Quality, Research and Public Health Domain in **IHE** addresses the infrastructure and content necessary to share information relevant to quality improvement in electronic patient care and health care records; facilitate interoperability between the clinical care system and clinical research; facilitate interoperability between the healthcare system and public health.

IHE Quality, Research and Public Health Profile Highlights

- **Birth and Fetal Death Reporting (BFDR)**:
  - Describes the content and format to be used within the pre-population data part of the Retrieve Form Request transaction from the RFD Integration Profile.
- **Drug Safety Content (DSC)**:
  - Describes the content pertinent to the drug safety use case required within the Retrieve Form for Data-Capture (RFD) pre-population parameter.

For a complete overview of the solutions provided by all **IHE** Quality, Research and Public Health Profiles, go to: **http://wiki.ihe.net/index.php?title=Profiles#ihe_Quality.2C_Research.2C_and_Public_Health_Profiles.**

Connectathon Registration Process

Further event information can be found **connectathon.ihe-europe.net**

Here you find a short summary of the registration process:

Identify the list of actors and Profiles that you wish to test

- Create an account on **Gazelle** → (only if do not already have one)
- Update organisation information
- Register system information
- Copy and start with systems from previous sessions
- Print and send the contract
- Your registration is complete when the payment has been confirmed and the Project Manager has received the contract
- Webinar for participants – watch for details
- Limit for log return – watch for details
- **Connectathon in Venice/Italy from 3-7 April, 2017**

Do not wait **until the last day** to register your system and your participants

Registration opens on	End of registration on	Payment deadline on
1 December, 2016	**15 January, 2017**	**28 February, 2017**

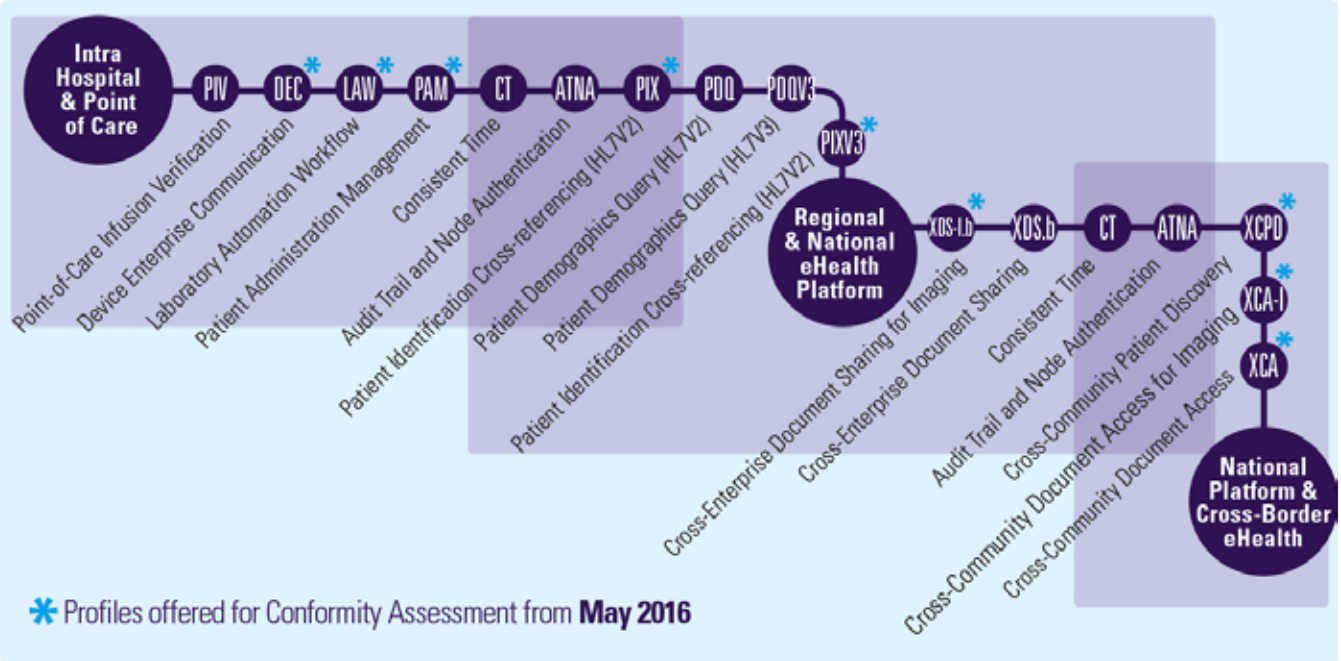
Links

Connectathon Results →
Documentation →
IHE Integration Statement Template →
IHE Technical Frameworks →
IHE Success Stories →
Link to Product Registry →
Support →

What's after the Connectathon?

Introducing the IHE International Conformity Assessment Program

Any vendor looking for more rigor who has passed the IHE Connectathon tests, for the appropriate IHE Profile, within the past two years can sign up for IHE Conformity Assessment Programme. The testing performed is based on an ISO/IEC 17025. Quality System in accordance with the IHE International Conformity Assessment Scheme. For details, see http://ihe.net/Conformity-Assessment.



Products submitted by vendors must be either products available on the market or planned products expected to be released within six months after the Conformity Assessment Test Session.

ISO/IEC 170

The ISO/IEC 17025 Accredited Testing Laboratory will provide a Conformity Assessment Report that is delivered to the vendor and published on the IHE International website after successful completion of testing.

Register now for testing for Conformity Assessment.
For more information, please contact **Alexander Berler**, IHE-Services Sales & Partners Director
E-mail: alexander.berler@ihe-europe.net
IHE-Services →

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