IHE SERVICES | Building trust in eHealth interoperability

IHE Services
eHealth Conference 2015
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IHE-Services

- Formally created in 2012

- Built upon a long experience in interoperability testing management and experience with epSOS.

- IHE-Services has the goal to offer <u>professional services</u> to support IHE Members as well as national/regional authorities, local projects or any other organisations deploying IHE profiles for their ehealth projects

IHE Services Catalogue

1 Consultancy and training on IHE profiles and underlying standards

2 Interoperability conformity assessment to IHE profiles of health IT products

3 Preparation and organisation of face-to-face interoperability test sessions as a managed service

4 Preparation and organisation of on-line virtual interoperability test sessions

5 Development of test tool extensions tailored to project-specific interoperability requirements

6 Specification of tailored test plans and test cases for projects building on IHE profiles

7 Support for installation and maintenance of project-dedicated testing infrastructures

8 Independent and impartial monitoring and reporting of interoperability testing results

9 Support the production of interoperability demonstration showcases

IHE Services Catalogue

Connectathons

Gazelle

Training

Virtual Connectathons

Consulting / IoP Specifications

Tailored Test Tools

New!

Conformity Assessment/Report

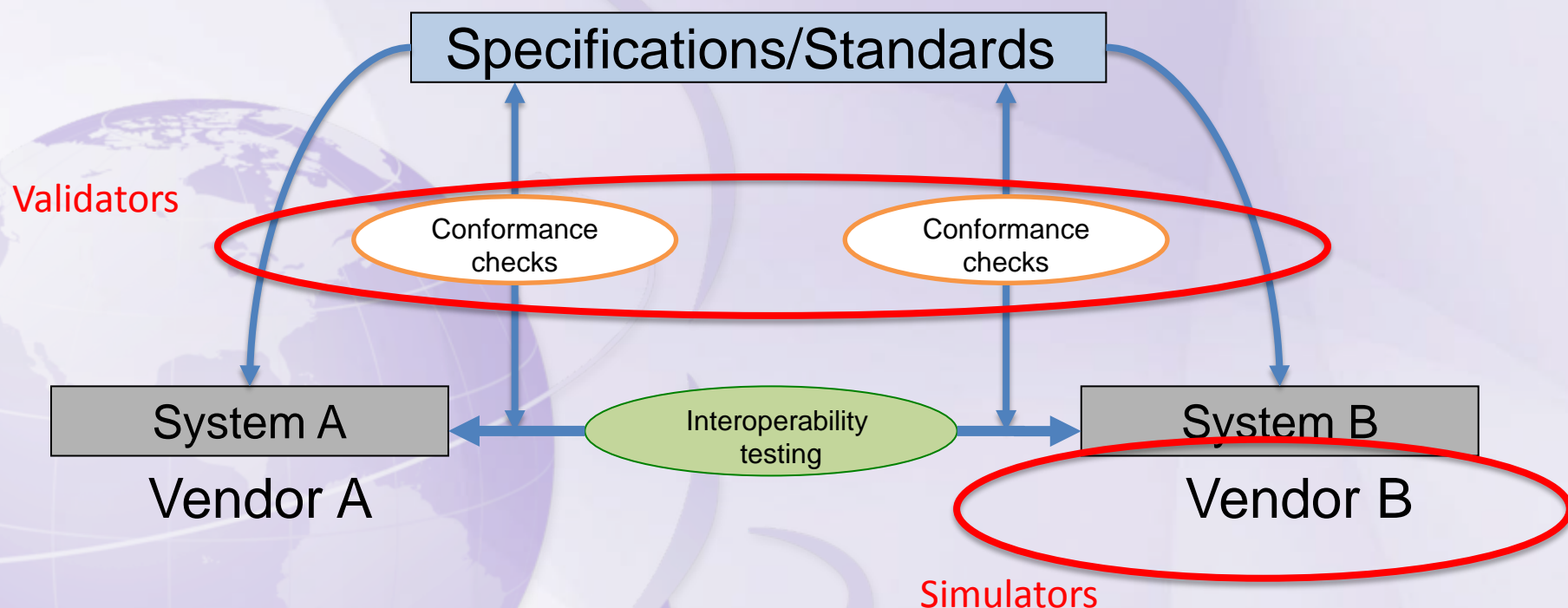**Interoperability Showcases**

Tailored Test Plans
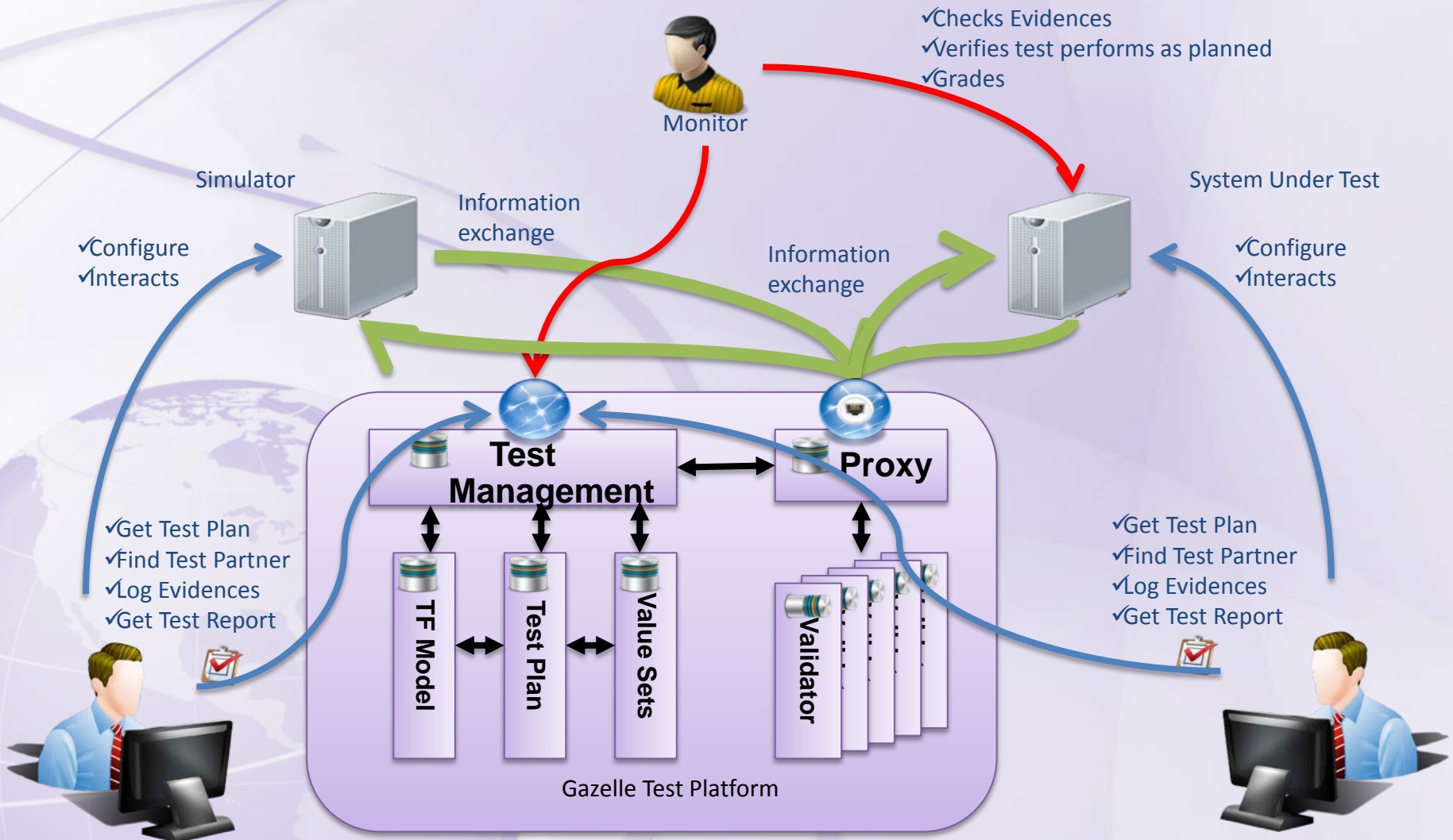
Consultancy – IoP Specifications

- IHE Services provides expert support for:
  - Interoperability specifications
  - Interoperability Architecture design
  - Test Tools
  - Test Plans
  - Training Programs
  - Healthcare information Exchange Governance
- IHE Services support the lifecycle of project and enhances quality and rigor in the cycle of healthcare related software
  - Specifications linked to test plans, test tools, labeling or certification schemes.
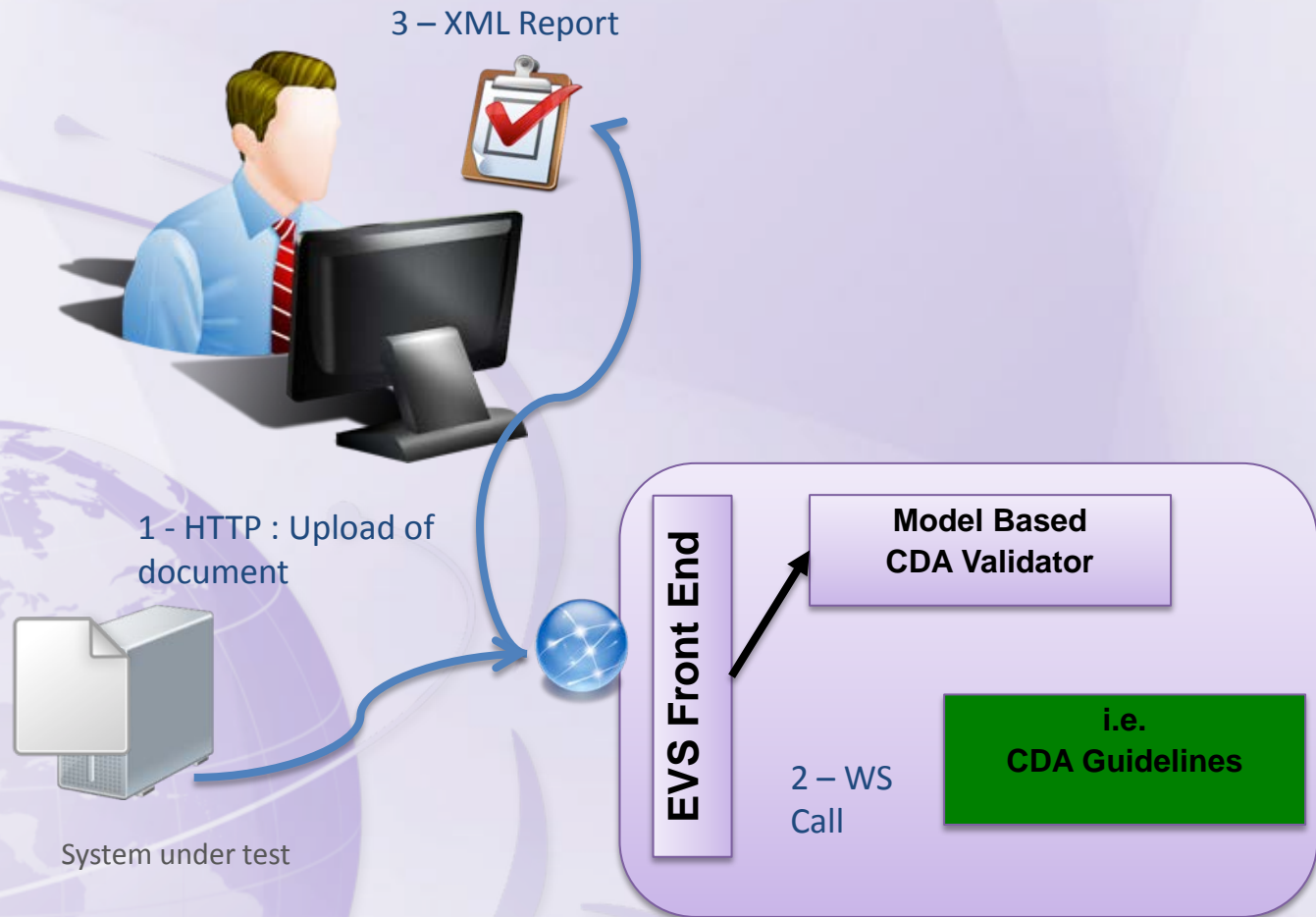 - Then supported by Gazelle platform

Gazelle test framework

❖ Test management tool oriented toward interoperability and conformance testing.

❖ Suite of conformance testing tools.

❖ Suite of simulators tools.

Specifications/Standards

Validators

Conformance checks

Conformance checks

Interoperability testing

System A

Vendor A

System B

Vendor B

Simulators

Interoperability & Conformance Tests

Standalone Document Validation

3 – XML Report

1 - HTTP : Upload of document

System under test

EVS Front End

Model Based CDA Validator

i.e. CDA Guidelines

2 – WS Call

Available IHE Validation Tools

❖ HL7v2 messages

❖ DICOM objects

❖ XML documents/messages

  ➢ HL7 CDA Structured Document

  ➢ HL7v3 messages

  ➢ IHE XD* transactions metadata

  ➢ DSUB metadata

  ➢ HPD messages

  ➢ Sharing Value Set messages content (SVS)

  ➢ Workflow documents (XDW)

  ➢ ATNA audit messages

  ➢ X509 certificates

  ➢ SAML Assertions

Available IHE Simulators

❖ Patient Manager

➢ ITI profiles relative to patient demographics exchange

➢ PAM, PIXv2, PDQv2, ADT part of SWF

❖ Order Manager

➢ Profiles dealing with management of orders

➢ LAW, LTW, SWF, EYECARE workflow

❖ XD* Client : Initiators from the XD* profiles, DSUB, XDS-I.b

❖ Sharing Value Set

❖ Healthcare Provider Directory

❖ Hospital Medication Workflow (Pharmacy)

❖ Lab Barcode Labelling

❖ Lab Code Set Distribution

Gazelle Maintenance Packages

- Two versions of Gazelle (Open source)
  - Community (non-supported)
  - Enterprise (supported + validated)
- Enterprise Versions
  - In House
  - Cloud Basic
  - Cloud Premium
  - Cloud EVS

Community Edition	Enterprise Editions			
	Cloud Basic	**InHouse Edition**	**Cloud Premium**	**Cloud EVS**
Downloadable public domain files	Hosted @ IHE Services Basic Pack	Onsite Installation	Hosted @ IHE Services Premium Pack	Hosted @ IHE EVS Services only

IHE Connectathon

- Open invitation to vendor and other implementers community

- Advanced testing tools (GAZELLE, a GITB platform)

- Testing organized and supervised by project management team and monitors

- Thousands of cross-vendor tests performed

- Results recorded and published

Connectathon key figures

300+ participants

230+ engineers from participating organizations

40+ monitors

30+ committee members

2800+ tests performed

120+ systems

Connectathons in Europe

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
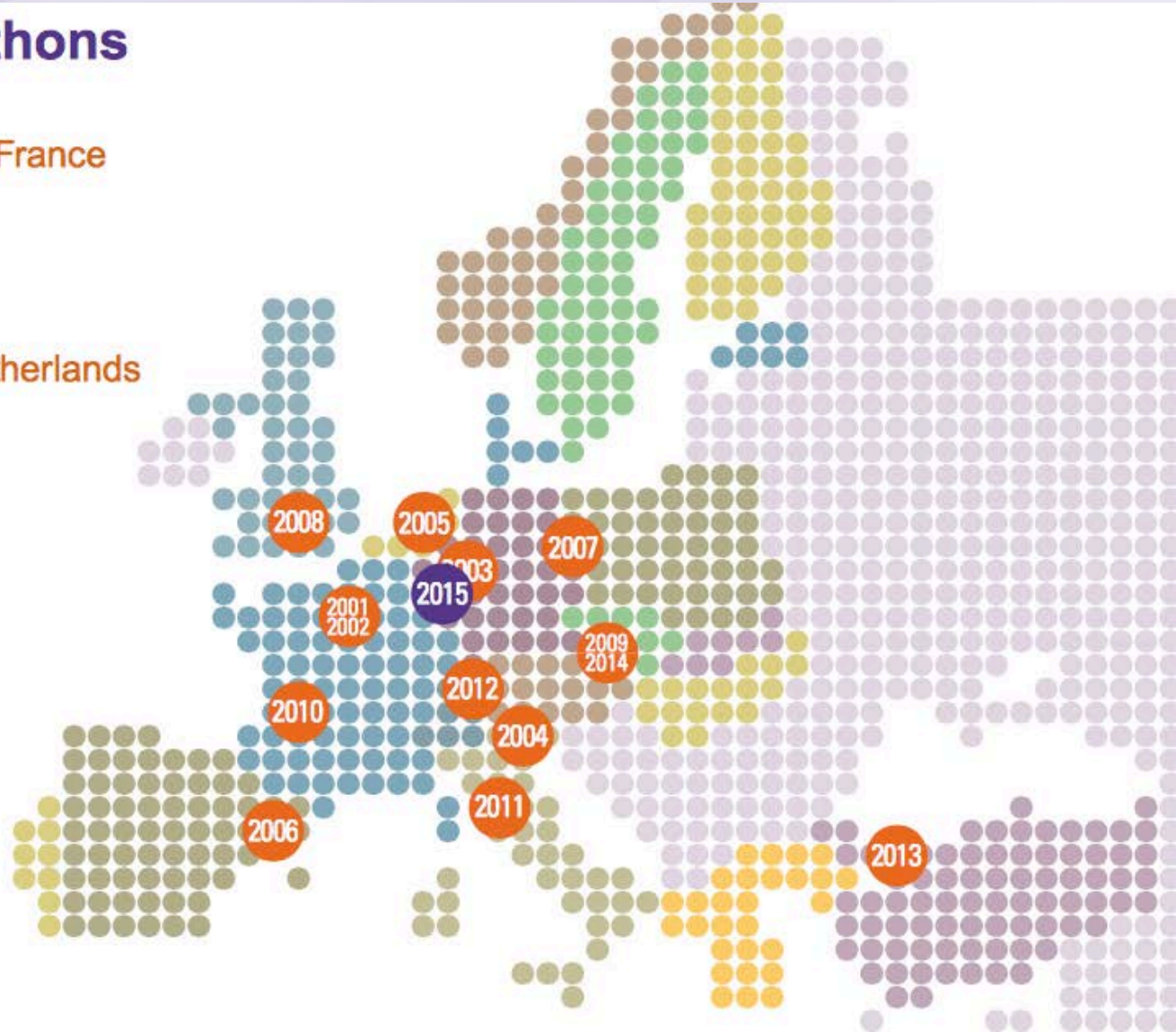
Connectathon Results Browser

On-line registry showing for all Connectathons worldwide which vendors have successfully passed the tests with their products for a selected set of IHE Profiles.

❖ Health IT suppliers have the opportunity to showcase the IHE competency of their company.

❖ Health IT buyers can easily search for evidence of supplier's IHE claims.

http://connectathon-results.ihe.net/

Product Registry

Virtual Connectathons

- IHE Services can establish and operate a virtual testing session for
  - Educational purposes
    - IICC
  - Pre-procurement purposes
  - Vendor engagement
    - Arsenal.IT
  - Pre Connectathon Testing
  - Pre production testing
    - epSOS
  - In House testing
  - Testing support for a specific certification/labelling scheme

Training

- IHE Service in association with expert partners supports training sessions
  - IHE profiles training
  - IoP Basics
  - Tailored training
  - National/Regional strategy support
  - End user engagement – awareness
  - Vendor training

Tailored Test Tools

- IHE services provides consultancy and implementation services to create new testing tools for
  - IHE profiles national/regional extensions
  - New IHE profiles
  - Custom / Local testing tools
  - National Program support
  - Validation tools - ObjectsChecker
  - Simulator tools
  - Continuous integration between specification – testing tools – test plans

Tailored Test Plans

- IHE Services can provide consultancy and expertise on creating
  - Analytical test plans
  - Link test plans to tools
  - Link test plans to specification
  - Link test plans to IHE profiles
  - Create test plans for IHE profile extensions

IHE Conformity Assessment Definition

- Test Report provided by a trusted neutral organization (generally called testing laboratory) that guarantees that the IHE profile implementation in a commercial products is positively tested against an IHE intl conformity assessment scheme defined in term of ISO17025.
  - Specific version of a specific product
  - Requires vendor to pass connectathon for seeking profile conformity assessment

IHE Conformity Assessment
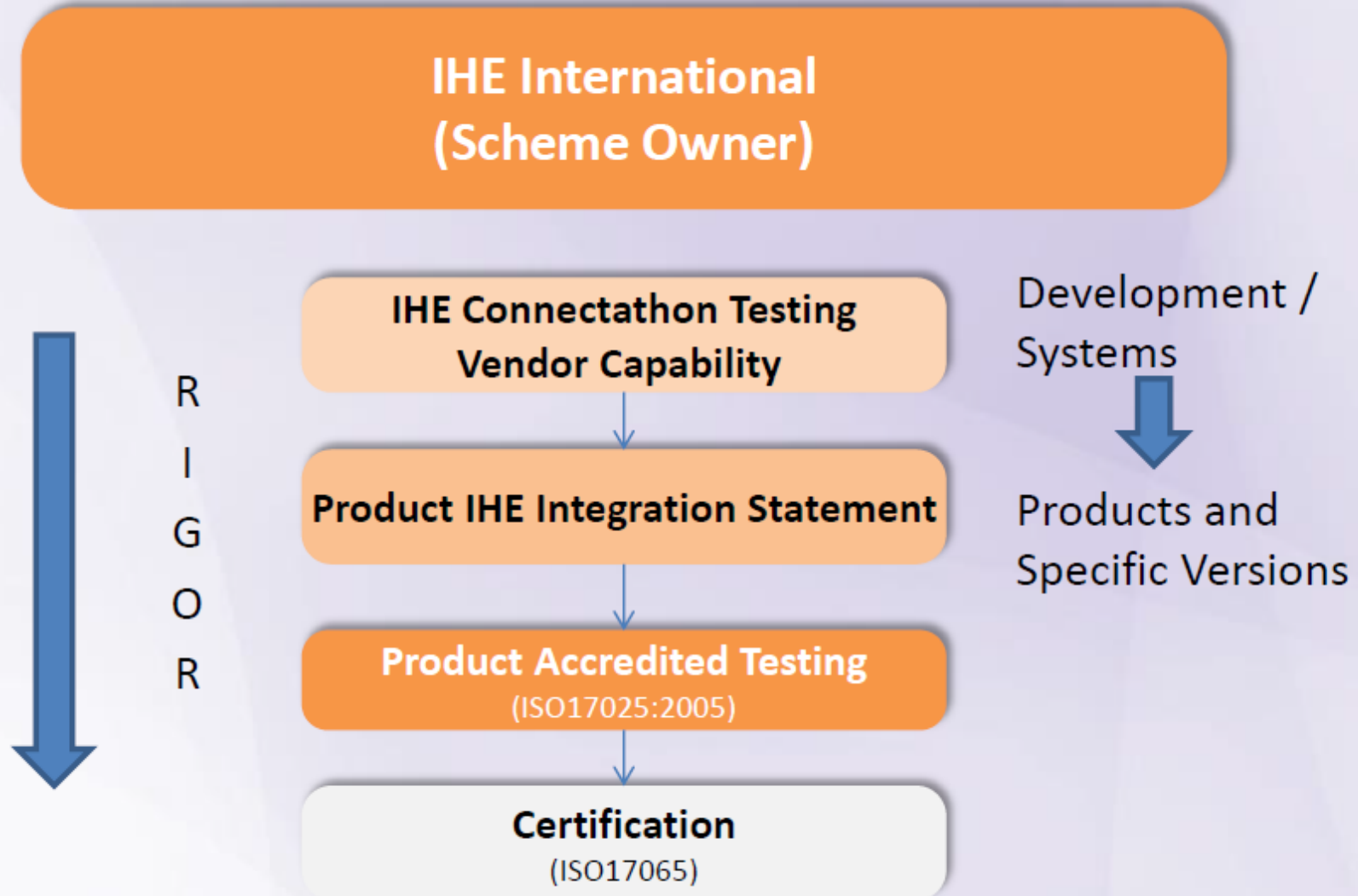
Organisation

Dimensions	IHE Connectathon	IHE Profile Conformity Assessment
Participants	Vendors & Open Source	Vendors & Open Source
Specific Product name and version	No (Vendor self-attestation through Integration Statement)	**Yes**
Testing Profiles (Technical Framework)	Trial Implementation and Final text	Only Selected Final Text Profiles
Collaborative and Learning	Yes	No
Pre-requisite	None – Only to pass pre-Connectathon tests	Vendor has successfully passed profile tests at an IHE Connectathon
Commitment to commercial availability	No – Pre-product testing OK	**Yes**
Guarantee Interoperability of tested products	No – Reasonable expectation	No – But Clearer expectation for specific product version
Staffing of oversight/jury	Monitored by volunteers	**Monitored by professional staff**
Results	Pass Results published for vendor by IHE	**Test Report published/attested by accredited testing laboratory**

Conformity Assessment Roll-out

- IHE Conformity Assessment Scheme adopted by IHE International Board:
  - Initial Set of Profiles selected: CT, ATNA, PDQ, PDQV3, PIX, XDS.b (low number of profiles – low risk, high value, stable profiles)
  - International testing tools be used
- Launch of Conformity Assessment in 2015 by IHE-Europe as a Pilot with accredited laboratory Kereval (ISO17025)
- IHE-USA and IHE-Japan
- Extensions to testing laboratories in other regions and addition of other profiles in 2016.

Interoperability Showcases

Links

- IHE-International: www.ihe.net
- IHE-Europe: www.ihe-europe.net
- Link to Product Registry :
  - http://product-registry.ihe.net
- Documentation :
  - http://gazelle.ihe.net/content/product-registry
- Conformity Assessment Program: http://ihe.net/Conformity_Assessment.aspx
- IHE Services web site: http://www.ihe-services.net
- Gazelle web site: http://gazelle.ihe.net

Any Question ?

www.ihe-Europe.net