

Procuring interoperable ehealth products progress and barriers

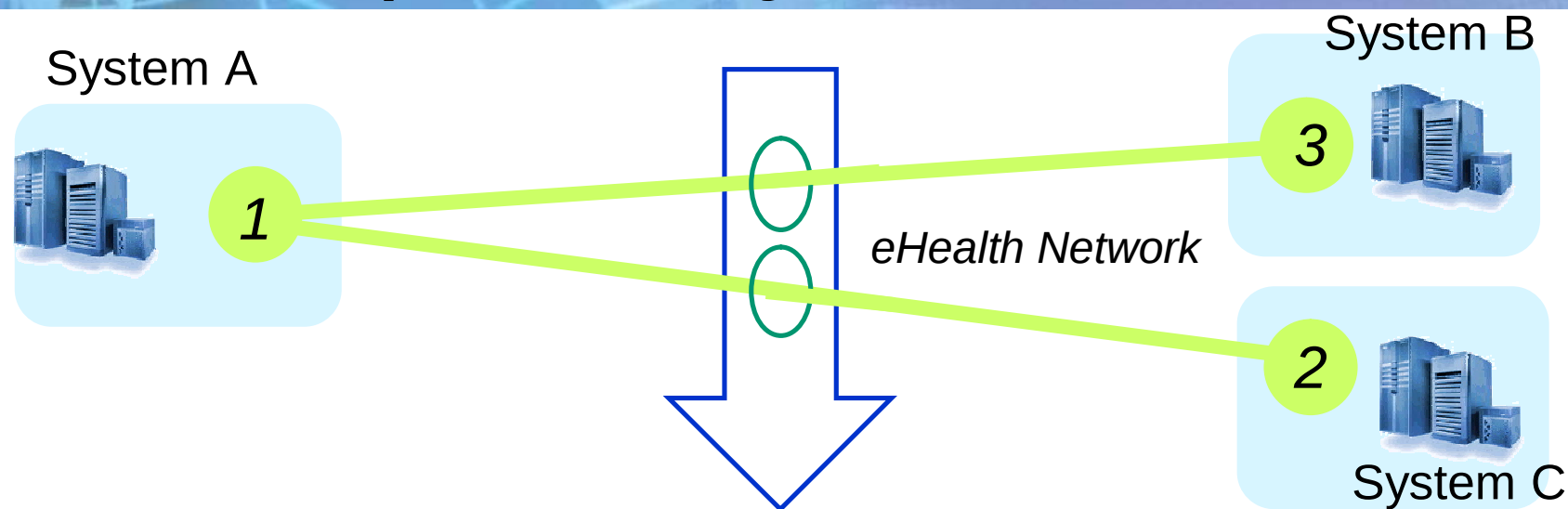
Charles Parisot IHE-Europe Steering Committee
Mgr Interop Standards & testing, GE Healthcare



Session Objectives

- What is eHealth Interoperability ?
- Interoperability is hard and when ignored results in significant delays, costs and conflicts
- The good news: industry and users have “paved” the road to interoperability
- Great help for interop procurement, but one need to follow the signs on the road
- What about conformance testing and certification ?

Interoperability Procurement



Interoperability requirements in a tender shall focus :

- 1. First and foremost on specifying what shall be exchanged “on the wire” between systems**
- 2. Second on the processing of the information sent or received by the procured systems**

These requirements shall be specified for each of the interoperable use cases that need to be achieved (e.g. access a patient summary, issue a prescription, etc.)

Standards: Necessary...Not Sufficient

- Interoperability Standards are
 - *Foundational* - to interoperability and communications
 - *Broad* - varying interpretations and implementations
 - *Narrow* - may not consider relationships between standards domains
 - *Plentiful* - often redundant or disjointed
 - *Focused* - standards implementation guides focus only on a single standard

It is not straightforward to include interoperability standards in a procurement !

Critical to define standards-based profiles for clarity in interoperability requirements

EU COMMISSION RECOMMENDATION

2nd July 2008 on cross-border interoperability of electronic health record systems.

Technical interoperability of electronic health record systems (section 7).
Member States should:

b)analyze the use of standardised information models and **standards-based profiles** when developing and implementing interoperable electronic health record systems and services solutions. Consider **standardised information models and standards-based profiles** to be part of national or regional specific interoperability specifications. Where appropriate, these information models and profiles should make use of existing European and international standards, and be based on the approaches and achievements of relevant industrial initiatives;

c)commit to the development of any necessary additional standards, **preferably open standards on a global scale**, involving the relevant European and international standardisation bodies in the key areas where shortcomings have been identified;

eHealth-INTEROP (M403): Standards to be profiled

Profile development and maintenance

- eHealth Standards Mandate (DG Enterprise) identified the necessity to ensure that specific base standards be **selected** and **profiled** (i.e. that options are picked and gaps are filled)
 - Interoperability requires that every “bit on the wire” is specified to allow any receiving system to unambiguously interpret the information transmitted (syntactically and semantically).
- **Profiles to cover all layers of interoperability**, from transport, through messaging services, to data structures and terminologies; these last two are two of the major elements necessary to provide semantic interoperability in health.
 - It is recommended to use the processes defined by ISO TR28380 to develop internationally agreed, or Europe specific **Profiles**.

The different classes of standards related specifications (M403)

– Interoperability Specifications:

- specific to a project, based on Profiles
- addresses the business-level use case

– Profiles:

- intermediate level of “interoperability building blocks”

– Base Standards:

- Either (1) very specific or (2) quite generic

Each project has own
Interop Specs



500-800
Base Stds

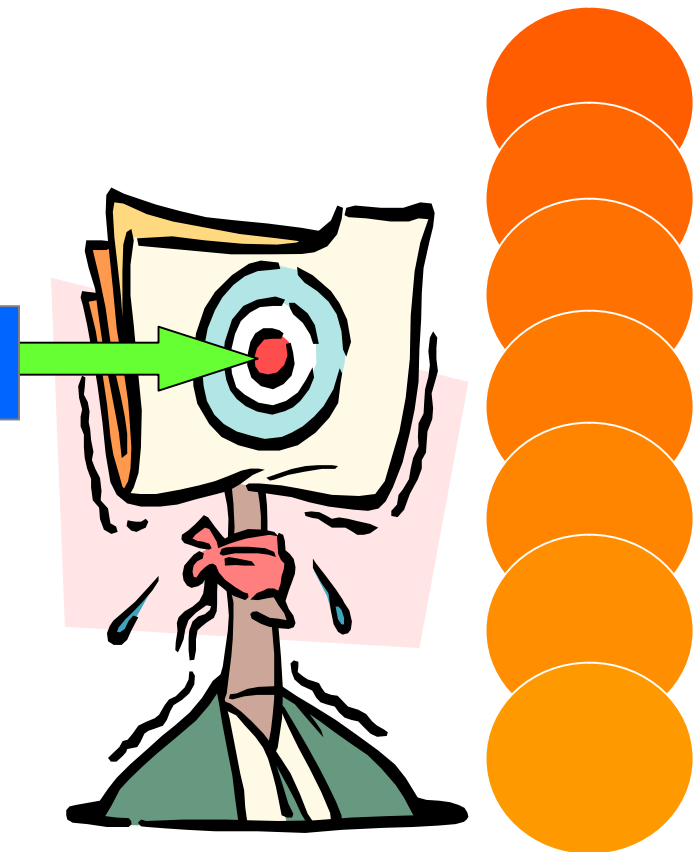
Profiles offer the right level of granularity for a
National/Regional/Local eHealth Project tender

Interoperability: Major Cause of Health IT project failures

Base Standards



eHealth Projects



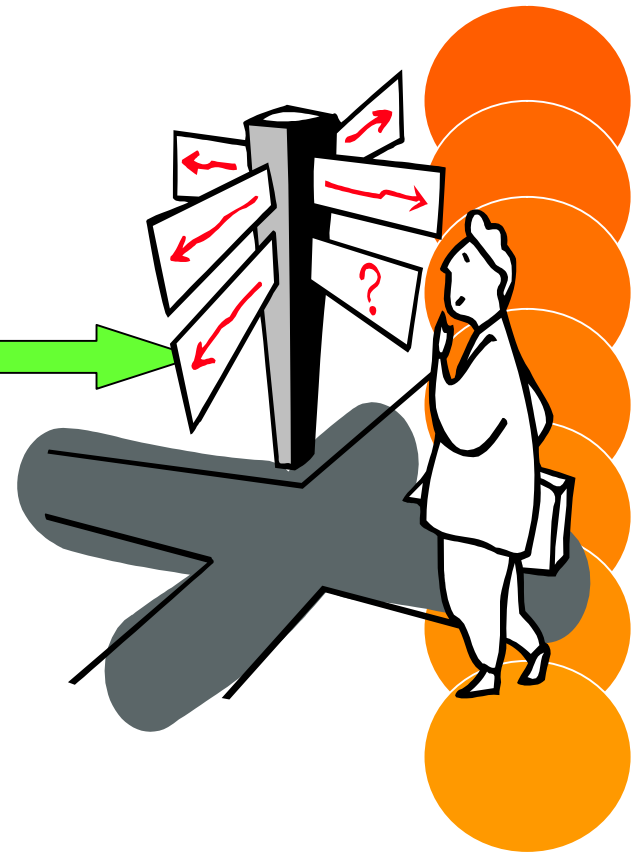
Health Interop. Standards: Ignore & Face
Consequences

Interoperability: Major Cause of Health IT project failures

Base Standards

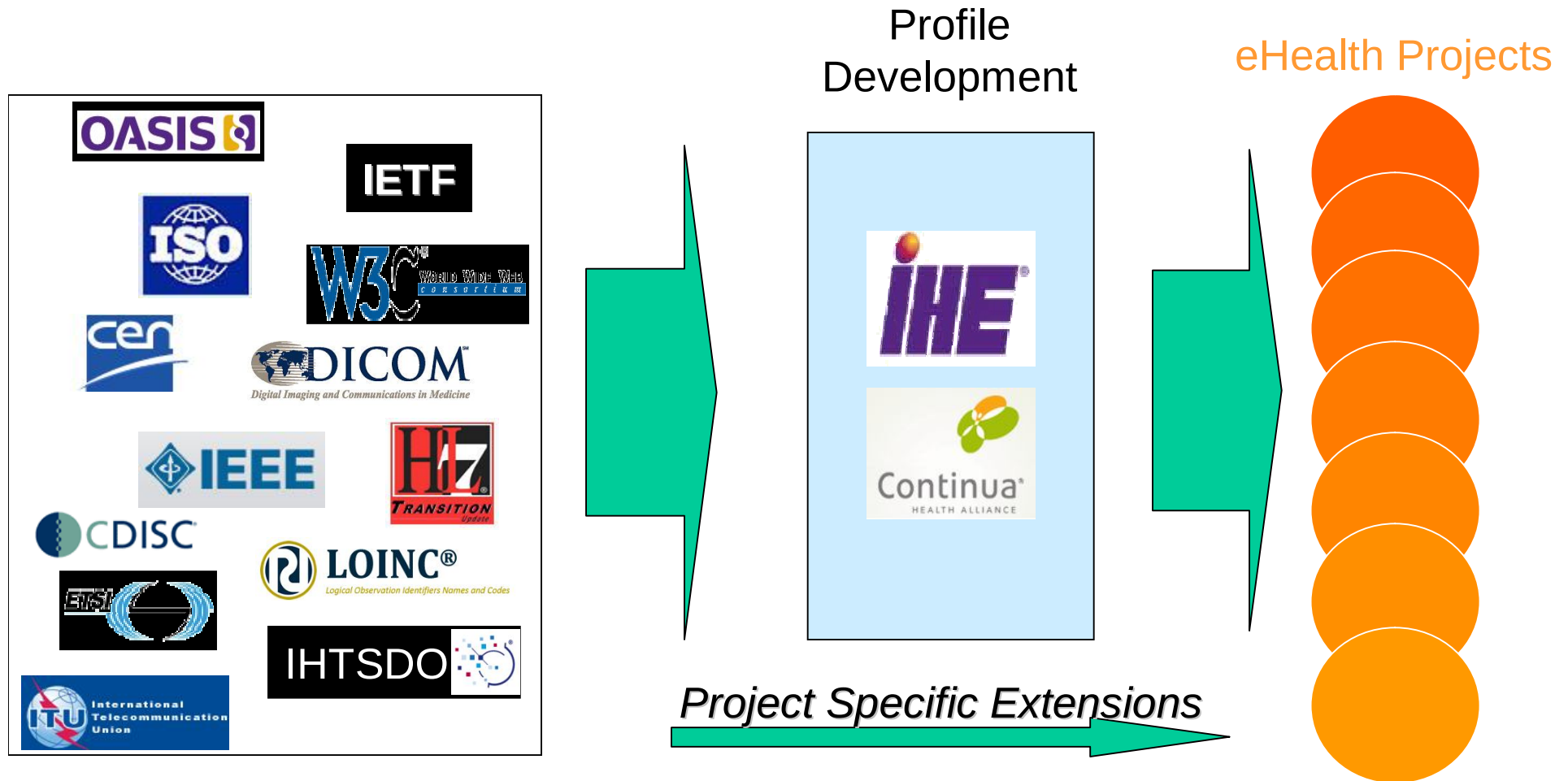


eHealth Projects



Health Interop. Standards: Chaos without profiling ?

Interoperability: From a problem to a solution



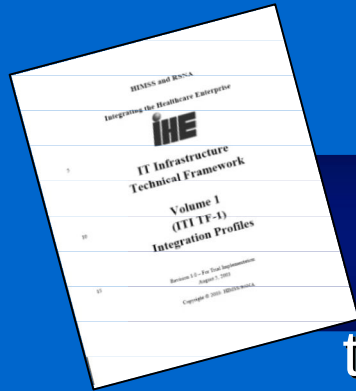
Profiling Organizations Are Established

IHE: Connecting Standards to Care

- Healthcare professionals and authorities work with industry
- Coordinate implementation of standards to meet clinical and administrative needs
 - Clinicians and HIT professionals identify the key interoperability problems they face
 - Providers and industry work together to develop and make available standards-based solutions
 - Implementers follow common guidelines in purchasing and integrating effective systems

IHE: An open forum for agreeing on profiles based on standards and processes for adoption

Standards Adoption Process

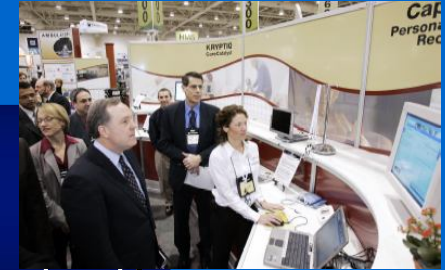


Develop technical specifications

Testing at Connectathons



IHE Demonstrations



IHE Integration Statement		Date
Vendor	Product Name	Version
This product implements all interactions required in the IHE Technical Framework to support the IHE Integration Profile.		
Integration Profile Implemented	Actors Implemented	Options Implemented
Scheduled Workflow	Asynchronous Workflow	Direct Workflow
		Patient Based Workflow
		Query
		Modality Group Case
Interactions of Grouped Procedures	Asynchronous Workflow	
Consistent Presentation of Images	Asynchronous Workflow	
Patient Information Reconciliation	Asynchronous Workflow	
Interact Address to	IHE Information	
Links to Standards Conformance Statements and e-Representation		

Products with IHE

Identify available standards (e.g. HL7, DICOM, IETF, OASIS)



Timely access to information



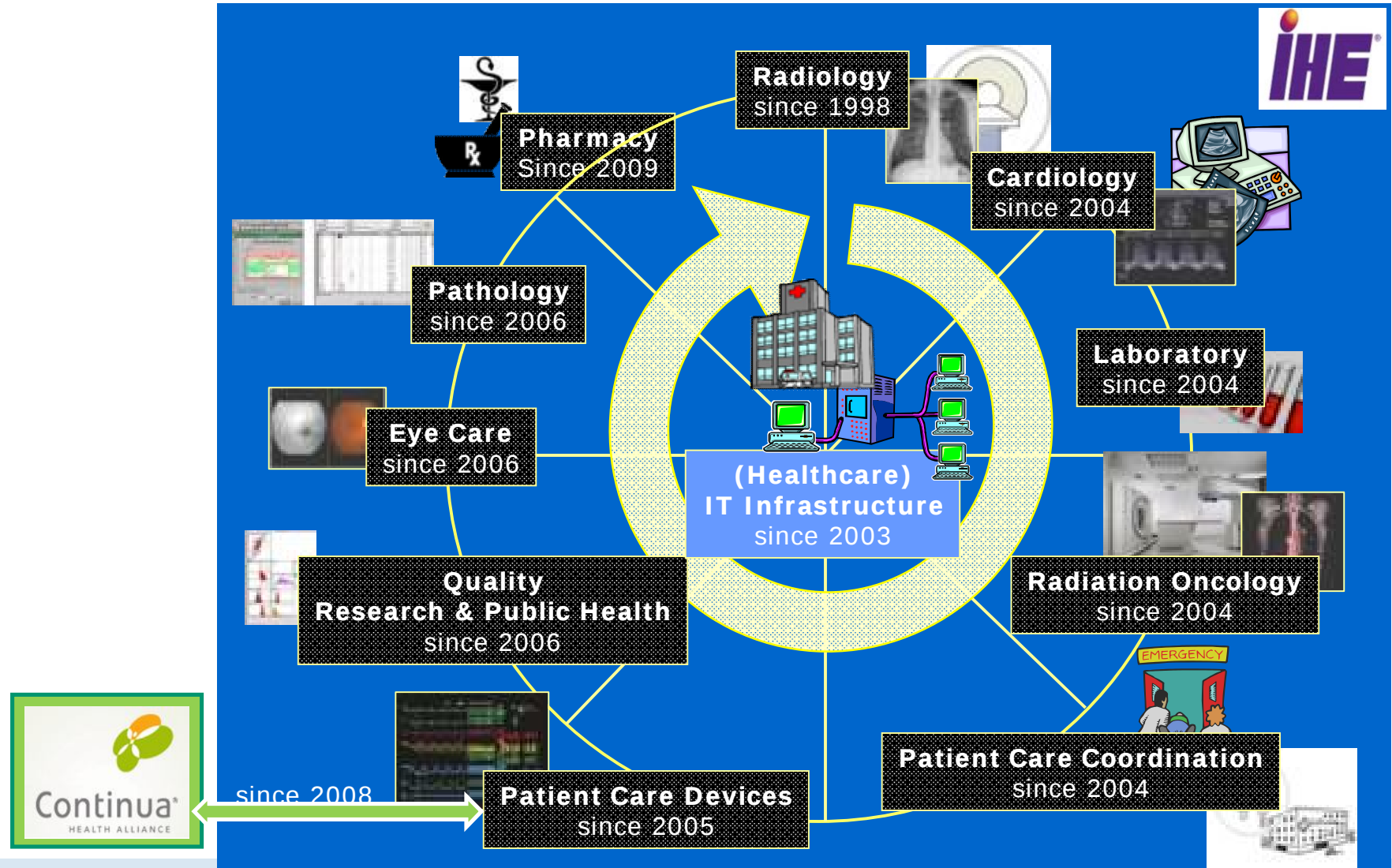
Easy to integrate products

Document Use Case Requirements



The IHE Development Domains

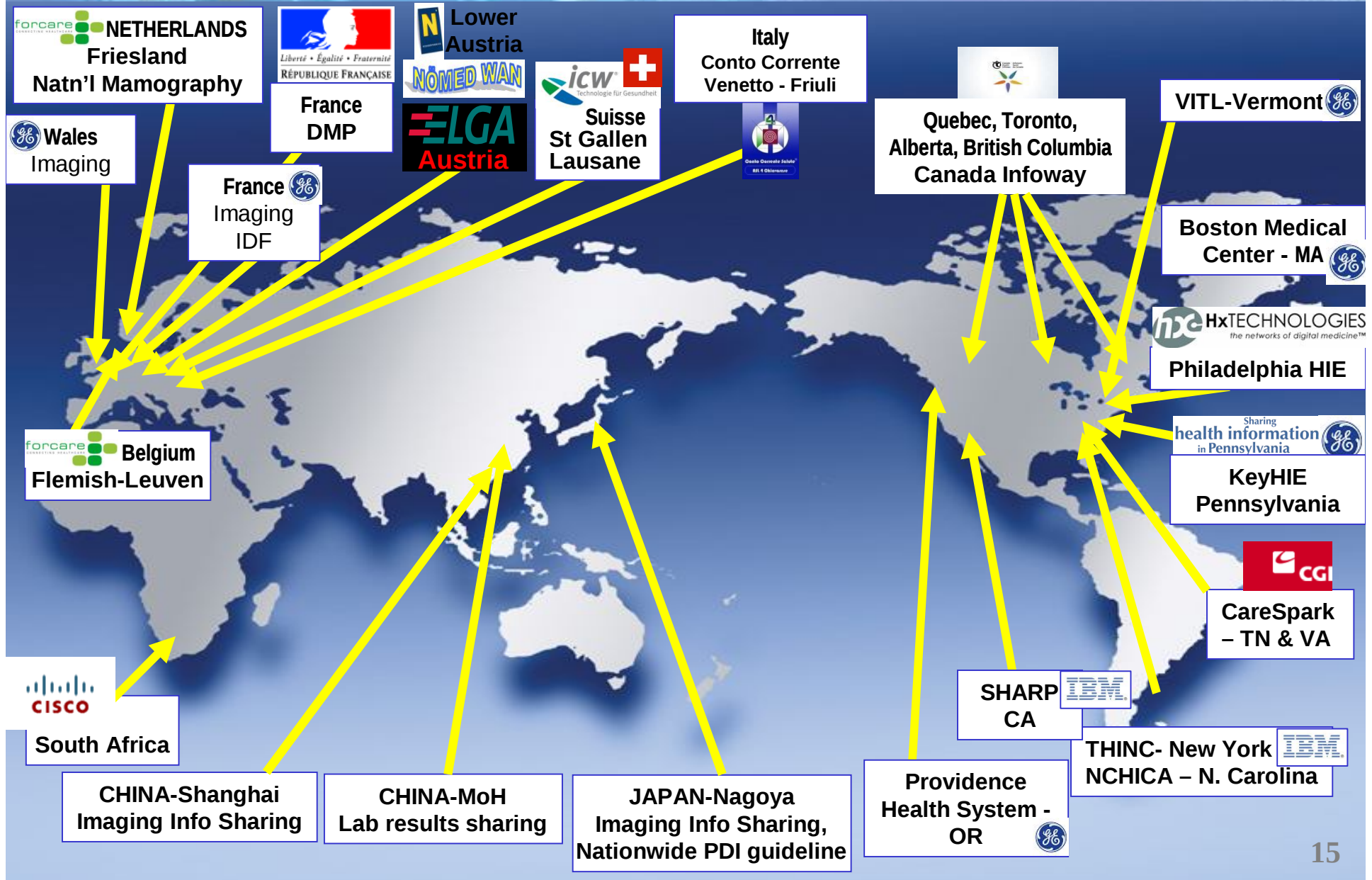
12 Years of Steady Evolution 1998 – 2010



What is IHE, how much adopted ?

- **Close to 400 Member Organizations through IHE solved and tested a number of healthcare interoperability problems**
- **An open, international, multi-stakeholder collaborative to accelerate standards based interoperability**
- **The European Commission eHealth Interop Mandate 403 leverages the IHE process**
- **ISO Health Informatics: TR28380 Global Standards Adoption – IHE Process and Profiles**
- **Widespread adoption of IHE Profiles by National and Regional Projects around the world: USA, Europe, Asia**
- **Home Health: CONTINUA and IHE work together. Partners in EU Project Smart Personal Health**
- **12 Country European epSOS Project: IHE-Europe hosting Industry Team, support project interoperability conformance testing**
- **European HITCH project to roadmap conformance testing and certification**

IHE, Global Standards-Based Profiles Adopted in National & Regional Projects



Looking “under the cover”

...Interoperability Procurement Recommendations

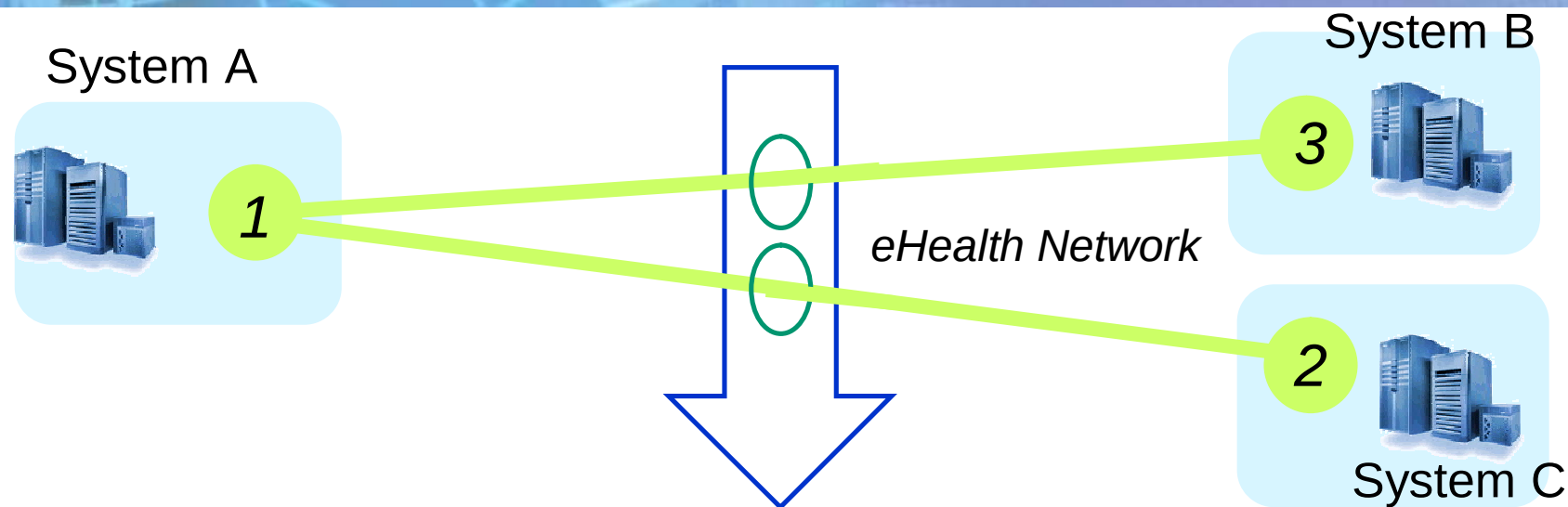


&



provide much help !

Interoperability Procurement



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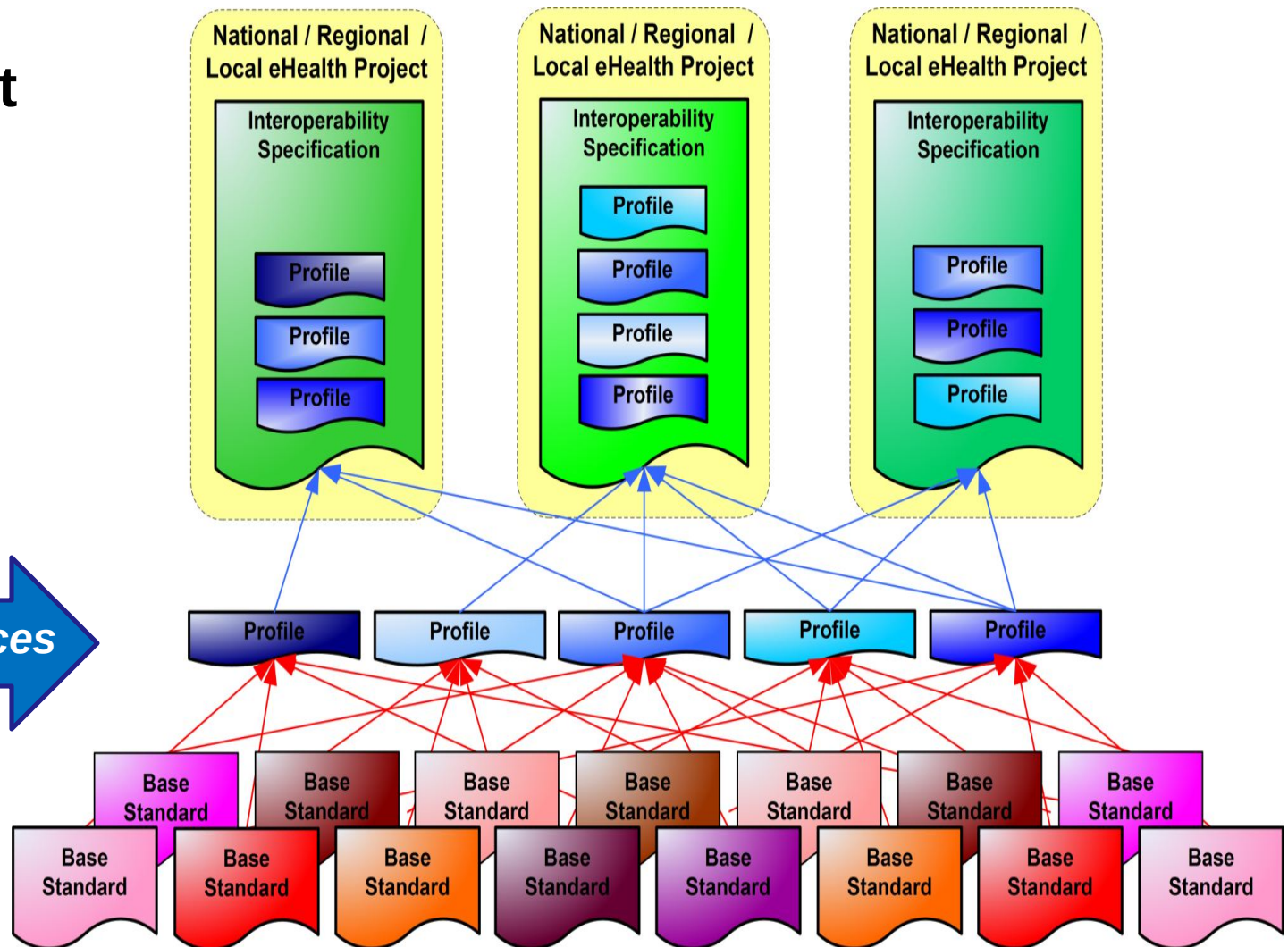
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Leveraging Profile Specifications (EU M403)

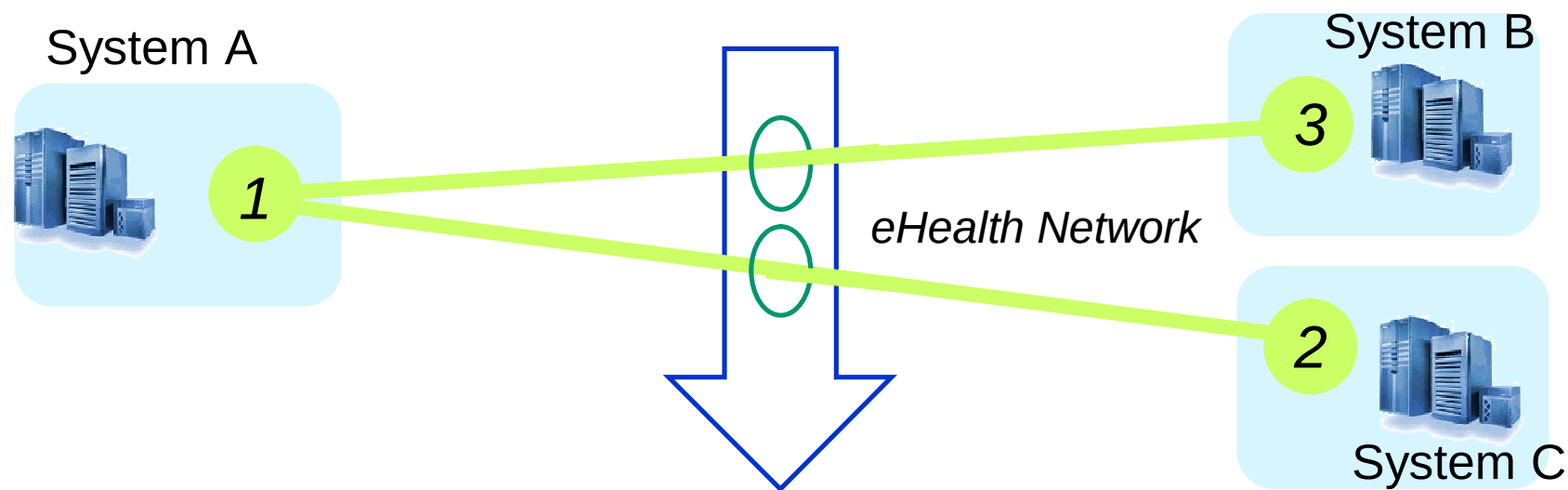
eHealth Procurement

Technical Part

References



Interoperability Procurement



***A Profile specifies (by references to standards)
what is exchanged “on the wire”***

between “abstract systems” called actors (e.g. 1,2,3)

For each systems procured:

- 1 - Specify the Profile/Actors to be supported (avoids pages of detailed specs)***
- 2 - Ask for the IHE Integration Statement (declares Profile/Actors supported)***
- 3 – Ask for a declaration that the Actor/Profile implemented has been tested at an IHE Connectathon (check on the IHE Product Registry).***
- 4 – Place contractual commitments to fix non-compliance to IHE Profile Specifications claimed***



Interoperability Procurement Recommendations

Challenges

- **Referencing Profiles for eHealth Interoperability in a procurement may appear unconventional:**
 - Should profiles be “EU recognized” by a traditional EU Standard Development Organization ?
 - Is it needed ? It may be creating a new “bureaucracy”.
 - Many EU procurements do not perceive this as an issue:
 - IHE process is ISO approved
 - Profiles are integral to the EU Recommendation on Interoperability
 - IHE is an open organization
 - Conventional standards are referenced by Profiles
- **More clarity is needed**

Interop. Conformance Testing & Certification

Interoperability Conformance Testing in eHealth is a complex task, except for simple devices. Much progress has been accomplished. Five elements needed (HITCH):

1. A quality system and Profile Specifications need to be stable and maintained (*In place with IHE*)

2. Testing Plans and Tools are needed (*some profiles have better test tools/plans than others*)

3. Perform Testing against tools + testing against other systems (*IHE tools and Connectathon*).

4. Labelisation: IHE requires products to be issued with Integration Statement (*voluntary certification and commitment to maintain in various configurations*)

5. As a complement, procurement should add a project specific “validation” for interoperability

Concluding Remarks

- The first and most necessary step is to reference in your procurement “robust, complete and standards-based specifications” for interoperability
→ *IHE Profiles,*
- Then ask for “proof” that proposed systems comply
→ *IHE Connectathon Results (company capability)*
→ *Product Registry (Integration Statements)*
- As a complement, add a project specific “validation” for interoperability

For further information



Integrating the Healthcare Enterprise

IHE Web: www.ihe.net

IHE-Europe: www.ihe-europe.net

Wiki: <http://wiki.ihe.net>

**Attend the next IHE Europe Connectathon
April 11-15, 2011 in Pisa, Italy**

Questions?

