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Testing and Product Certification

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Section A

Introduction
NIST

- National Institute for Standards and Technology
- US Department of Commerce
- US National Standards and Measurement laboratory
- Measurement applied to software → testing
Work with IHE

- Integrating the Healthcare Enterprise ([http://www.ihe.net](http://www.ihe.net))

- Involved in development of Cross-Enterprise Document Sharing (XDS)
  - Profile creation
  - Testing
  - Developer support
  - Tools development
Why IHE?

- Google “healthcare interoperability”
- Many other organizations involved in movement towards interoperability
- IHE has interoperability as its focus
Where to Start?

- Goal is to apply testing to achieve interoperability
  - Interoperability is a feature of the specifications
  - Testing verifies

- Start with requirements

- Standard(s) exist to support requirements
Focus

- Interoperability = W + X + Y + Z

- What are W, X, Y, and Z?
Some Possible Components

- Agreements
- Data
- Structure
- Messages
- Standards
- Testing
- Claims
Basic Questions

- Why is testing so complex?
- Why is interoperability hard?
- Why is interoperability important?
- Who needs to know?
What Is Interoperability?

- Ability to automatically interpret exchanged data

- Can involve:
  - Message sequences
  - Message formats
  - Data types
  - Data coding
  - Language
Is standard strong (specific) enough to support testing?

- Normative ("shall") language
- Informative language
Weaknesses in a Standard

- ... from the point of view of interoperability
- Free text vs. coded entry
- The holder “will inform” the needer ...
  - No normative language, no mechanism
A profile is a set of constraints placed on a standard(s) to ensure interoperability

- Narrow the scope
- Narrow the choice of mechanism
- Achieve agreement of stakeholders
IHE Approach

- Work with stakeholders to:
  - Define use cases to narrow the scope of the standard(s)
  - Document the narrowed scope
  - Document the technical approach to achieving the narrowed scope

- Formally publish resulting document as an Integration Profile