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Section B

Lifecycle of a Profile
Profile Lifecycle

- Initially labeled as “Published for Trial Implementation”

- Leads to:
  - Implementation by interested parties
  - Testing ... testing ... testing
  - Updating to fix flaws
  - Testing, updating, ... as needed until

- Republished as part of Technical Framework
Testing

- Conformance
  - Pre-Connectathon

- Interoperability
  - Connectathon
Conformance Testing

- Test against a reference
  - Published set of static tests and test data
  - Validation tools (software)

- Tests designed to:
  - Show conformance
  - Allow debugging

- Not full coverage

- Test results indicate basic competence
Conformance Testing

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Source of Test Material for Test Writer

- Normative “shall” language
- Standard(s)
- Profile
- Use cases
- “Shall” language forms a “contract” between developers
Test Material Published As

- Example data
- Example messages
- Example responses
- Message validation tools
Test Verification

- Get system to produce a verifiable result
- Examination of logs
Interoperability Testing

- A scheduled event (IHE Connectathon)
- Testing partners in the same room
- Each test has:
  - A goal
  - Collection of testing partners
  - Functionality of a conformance test
- Each test is:
  - Repeated with different partners
- Test monitor observes interaction
- Interoperability is a web of connectedness
Interoperability Testing

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Test Verification

- Get system to produce a verifiable result
- Examination of logs
- Monitors
- Validation tools
2011 North American IHE Connectathon: Statistics

- 98 organizations
- 154 systems
- 400 vendor staff
- 4101 tests verified
- 53 monitors
- 42 tests/vendor (average)
XDS Statistics

- **Servers**
  - Document registry: 26
  - Document Repository: 31

- **Clients**
  - Document source: 55
  - Document consumer: 71
Why Invest this Effort?

- System integration at a medical center is very expensive
- Multiple vendors
- Integration engineers and developers present
- How good was integration specification?
- How is this integration different than the last one?
- Post-Connectathon, vendors are encouraged to publish an Integration Statement documenting their success/progress