XML Schema User Experience Report

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Background

- Kohsuke
  - > Data-binding tool development (JAXB)
  - > Validator development (MSV and bit of Xerces)
  - > Schema object model development
- Leonid
  - > Test suite development (JAXP&JAXB)

Use of XML Schema at Sun

- Sun supports XML Schema in many technologies
  - Various Java APIs: JAXP, JAXB, JAX-RPC, JAXWS, ...
  - NetBeans
- Sun uses XML Schema in many technologies
  - J2EE deployment descriptors
  - Liberty, identity server, IM server, N1, ...
- Schema test suite helped JAXP TCK tremendously

Issues We Experienced (1)

- Extensibility should be opt-in, not opt-out
  - Type substitutions
  - Substitution groups
  - Good data binding very difficult, even if problematic features are actually unused
- Staggering complexity of the spec
  - Virtually no hope of implementing it right
  - But not bad enough to stop adoption

Issues We Experienced (2)

- Not enough hints for data binding tools
  - What are root elements?
  - Content models twisted to satisfy schema constraints such as (A|B)*,(C,(A|B)*)?
- Not enough expressiveness for data bindings tools
  - UPA
- “Bugs” in the spec
  - No annotation for particles, attribute uses, ...
  - Anonymous/named inconsistency

Issues We Experienced (3)

- Test Suite
  - Erroneous tests
  - Lack of test coverage metrics
    (estimated 40-50%, not clear which assertions are tested)
  - Tests not updated to keep track of errata
  - No effective appeal process

Issues Our Users Experienced

- Cryptic error messages
  - Lack of consistent assembly model
  - UPA violation
- Editors that produce wrong schemas
- “Best practices” that are bad practices

Conclusion

- Please no XML Schema 1.1
  - Significant cost for the industry
- More focus on test suites