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 \((A\mid B)^*,(C,(A\mid B)^*))\)?

• 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