one.world — Interesting Issues

**Leases**
- Used to control access to local and remote resources alike
- Make time explicit and ensure eventual reclamation
- But also introduce unnecessary failure modes for local resources
  - E.g., renewal messages may be lost under heavy load
- Result: Leases do not work well for local resources

**Data Model**

**Conflicting requirements**
- Integration with programming language
  - Easy to program
- Flexibility
  - Expressive enough for applications
- Simplicity
  - Easy to exchange between applications and services

**Currently: Programmatic model**
- Structural definition
  - Public fields
- Semantic constraints
  - validate()
- Formatting
  - toString()
- Versioning
  - serialVersionUID

**Better alternative: Declarative model**
- Automatically mapped onto objects
- But separate specification
  - XML is not it!
    - APIs too unwieldy (DOM)
    - Standards too complex (XML + XML-Schema + XSL)
    - Encoding too verbose (especially for binary data)

Limited interoperability