RPC versus Documents

Malcolm Atkinson

Director of National e-Science Centre
www.nesc.ac.uk

1st May 2003

IBM Almaden Research Centre
DAIS WG Face-to-Face
Option 1

- **Adopt only RPC**
  - **One action per function call**
  - **Pro**
    - Every possible combination of actions exposed
    - Externalises WFL enactment
    - Tool support
  - **Con**
    - Every possible combination of actions exposed
    - Work flow and data operation optimisation harder
    - More round-trip latencies
    - Hard to represent the complex DB parameters as function types
    - Consequence, tool support doesn’t address hard issues
    - Hard to partition full DB languages into separate functions
    - How do you arrange inter-action data flow?
    - Not easily extended
Option 2

- **Adopt only the Document model**
  - **Specified sequences or DAGs of actions**
  - **Pro**
    - Allows relationship between actions to be explicit
    - Simple extension mechanism
    - Consistent with the document models in DBs
    - Reduces round-trips
    - Can use document analysis to limit options and optimise before starting work
    - Can emulate RPC by one action per document
  - **Con**
    - More complex to specify & implement
    - May be missing opportunity to re-use WFL enactment
Option 3

- Support both RPC & Document model
  - This avoids making a decision
  - Pros
    - none
  - Cons
    - Much more complex specification
      - Interactions between interleaved calls in each mode
    - Much more complex implementation
      - Support both forms of checking?
Actions for the WG

- Choose 1 option
  - Only RPC
  - Only Document
  - Both RPC & Document
- Probably by context, i.e. per portType function
- Fix the spec. for V1 to this choice
- Recommend
  - Only Document model for accessing DB capabilities, i.e. perform