An IT Infrastructure for Long Term Research & Development at the CRC for Construction Innovation

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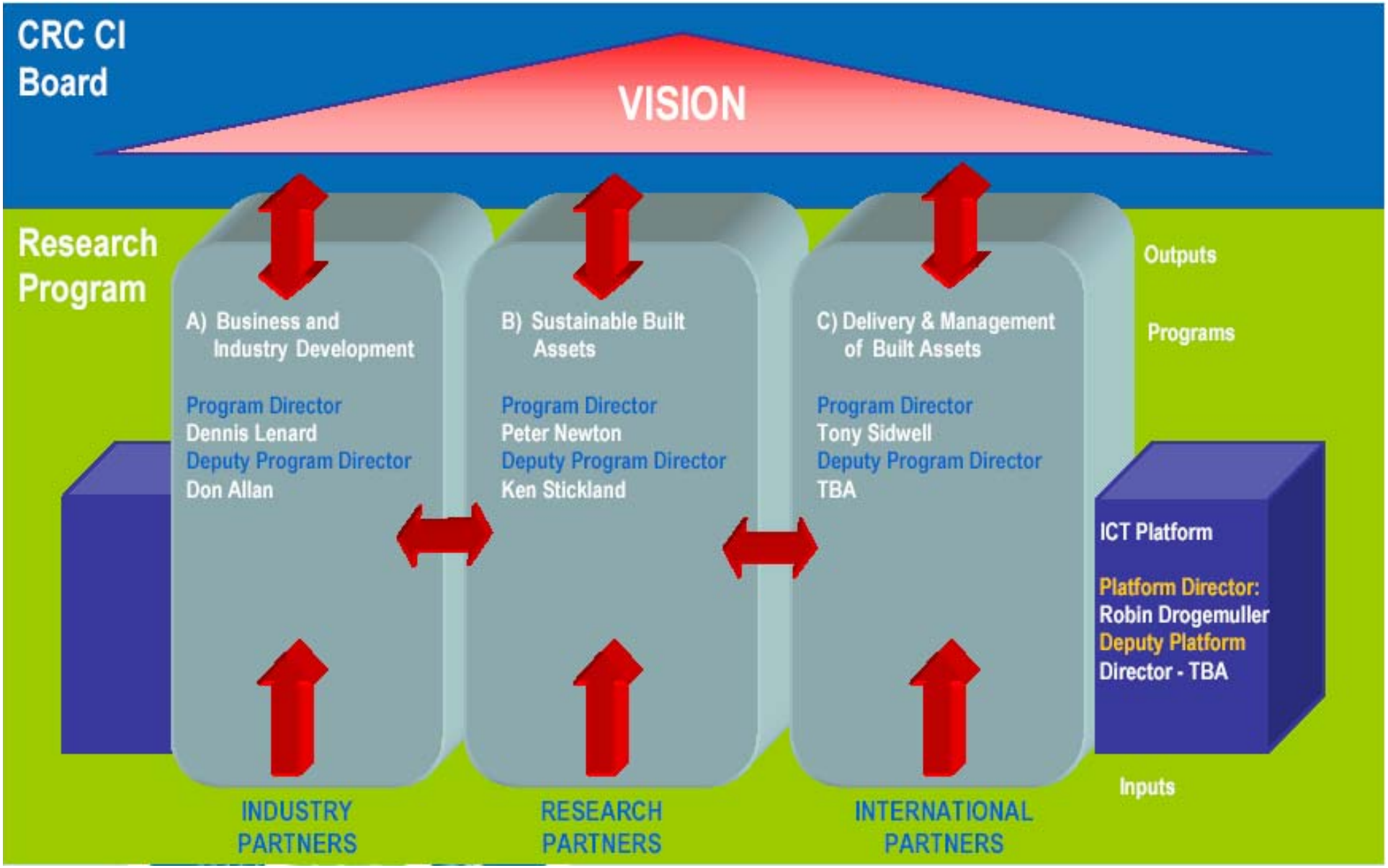
CRC Construction Innovation
BUILDING OUR FUTURE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Inputs
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RESEARCH PARTNERS
INTERNATIONAL PARTNERS

Why Long Term?

- CRCs have 7 year life
  - Possibility of extension
- Reviews at 2, 5 and 7 year intervals
- Need to move appropriate deliverables towards commercialisation

Why an IT Infrastructure?

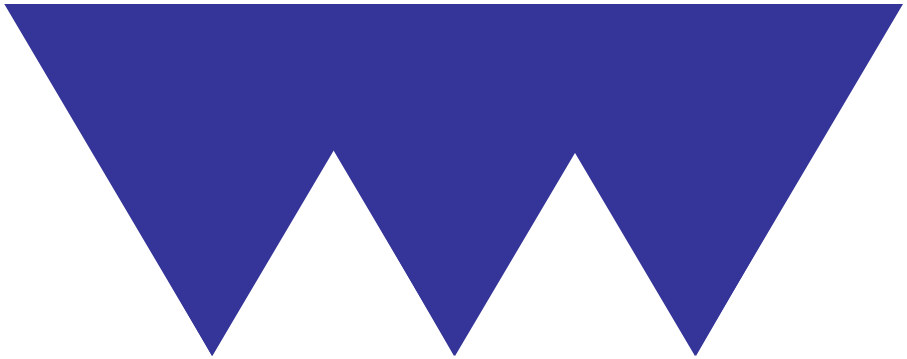
- Working on various ICT domain projects
  - Estimation & viewing
    - Structural
  - Code Checking
  - Environmental analysis
  - Virtual worlds & early design
  - Parametric design at early stage
    - Synthesis
      - architectural, environmental, blg services, structural

Why an IT Infrastructure?

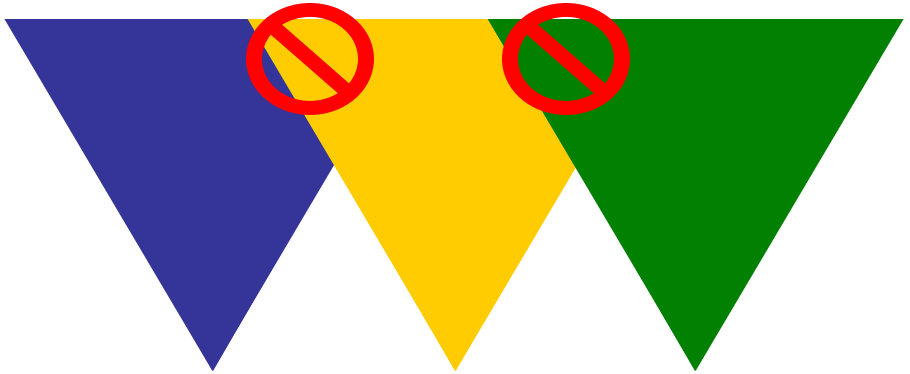
- Need to reduce redundancy in effort
  - More “bang for the buck”
- Allow incremental development across project teams
- Allow development across “versions” of projects
- Provide unifying mechanism

Providing Unifying Mechanism

- We want this:

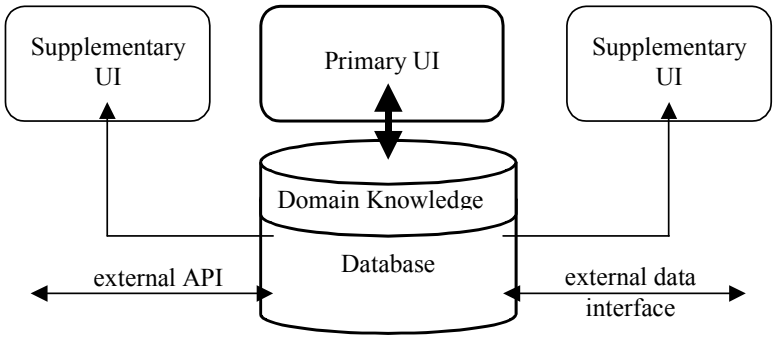


- Not this:

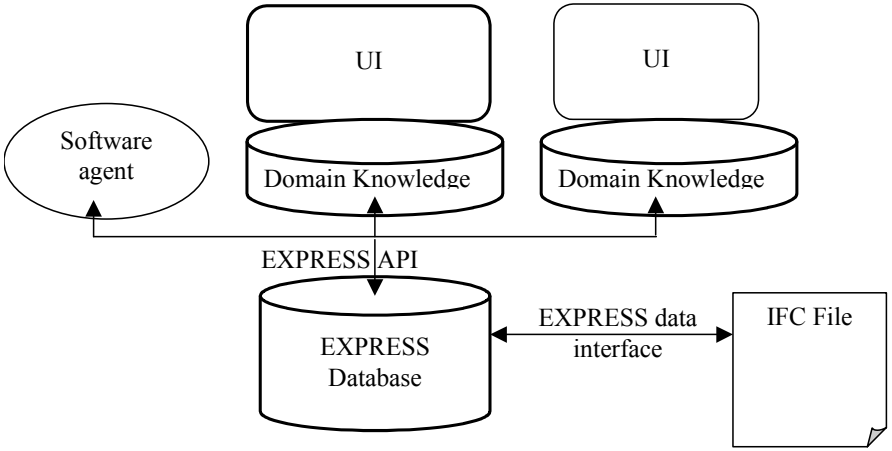


Single User Architectures

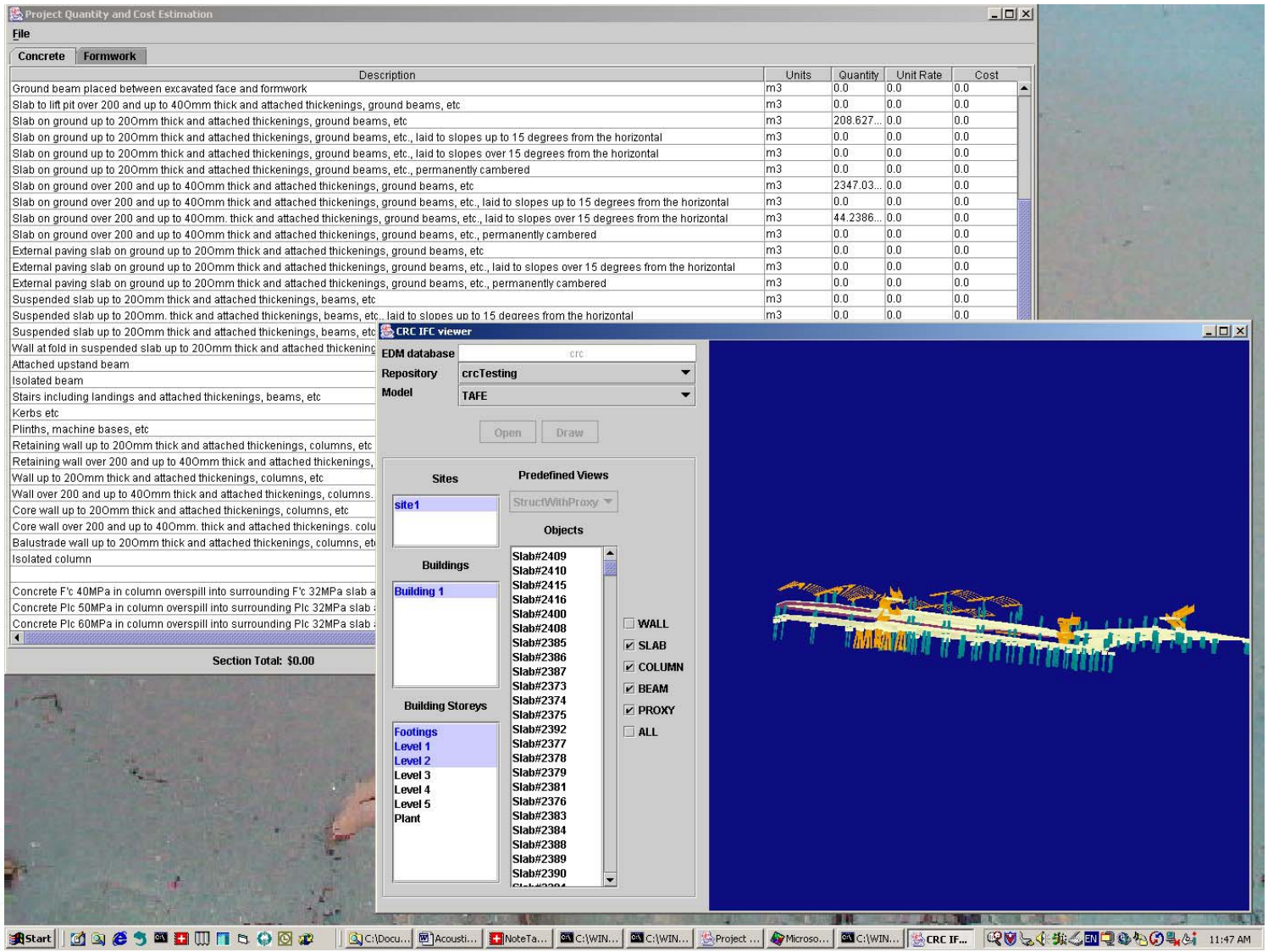
“Standard” single user



CRC-CI single user



Existing Interface – Estimating & Viewer



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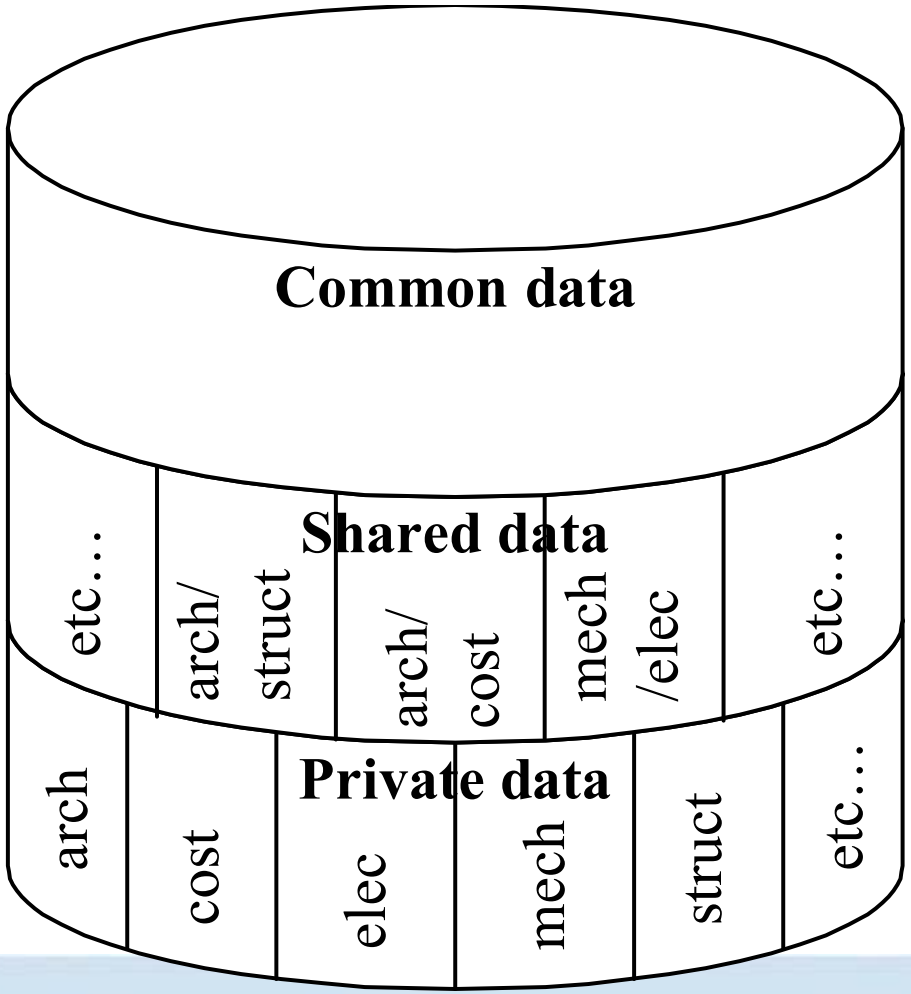
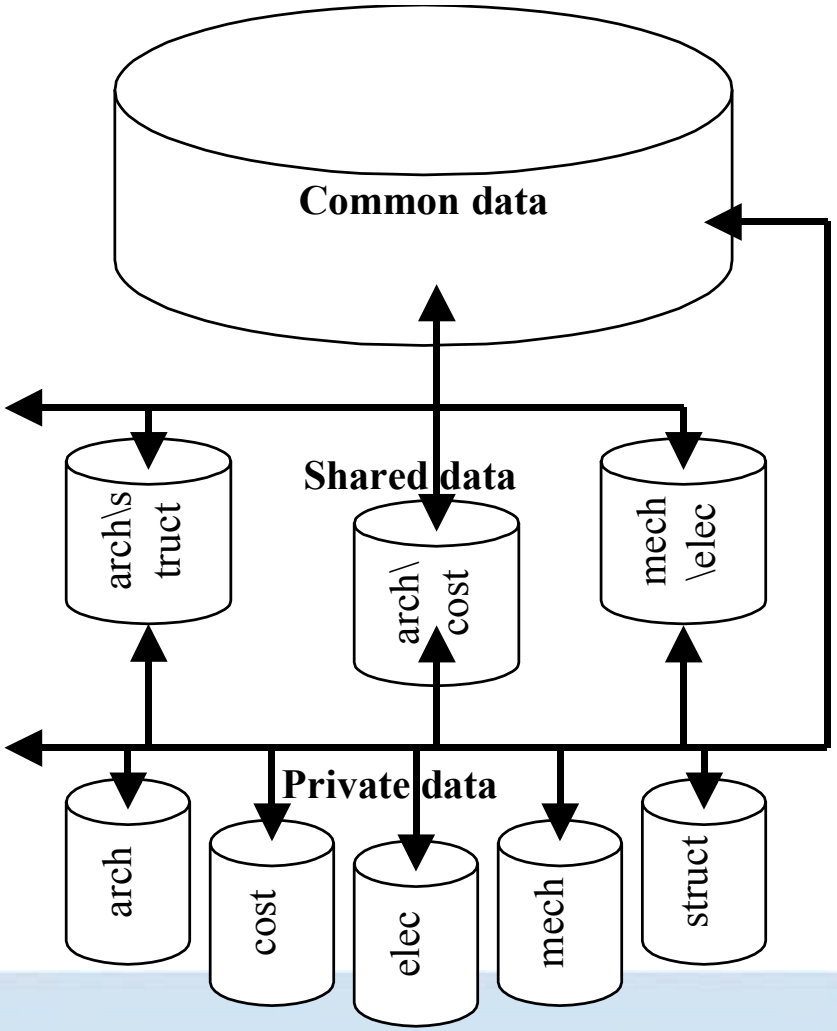
Multi-user Issues

- Privacy of the information & IP
- Level of trust in the database administrator
- Capability of companies within AEC-FM industry to manage shared data and DBs.
- Technical issues are resolvable using current database technology
  - maintaining privacy, access control, etc

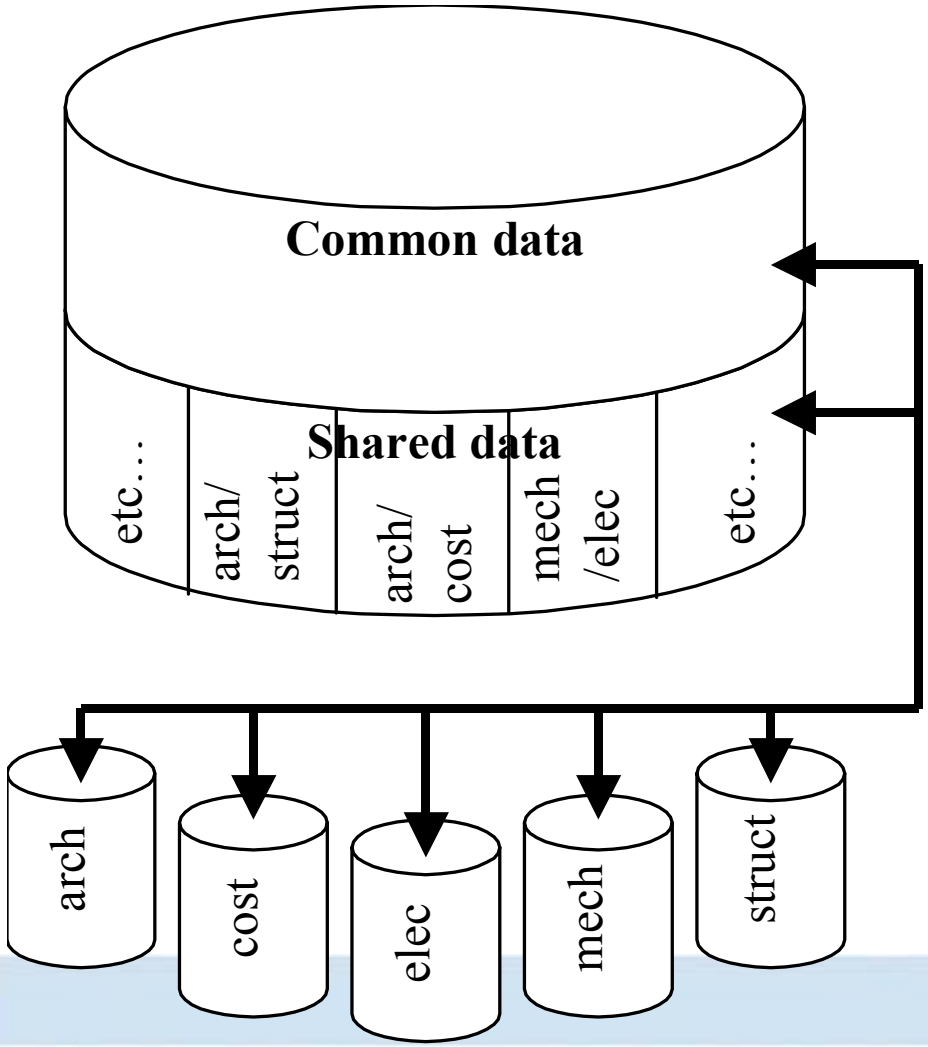
Architectures 1: Common



Architectures 2 :Federated



Architecture 3: Partially Federated



Issues

- Appropriate methods of access control
- Versioning
  - Same project
  - Instances within a project
- Defining "views“
  - different members of the project team
    - which objects
    - which aspects of those objects
    - methods of interaction with the objects

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