Grid-based Virtual Organization for Flood Prediction

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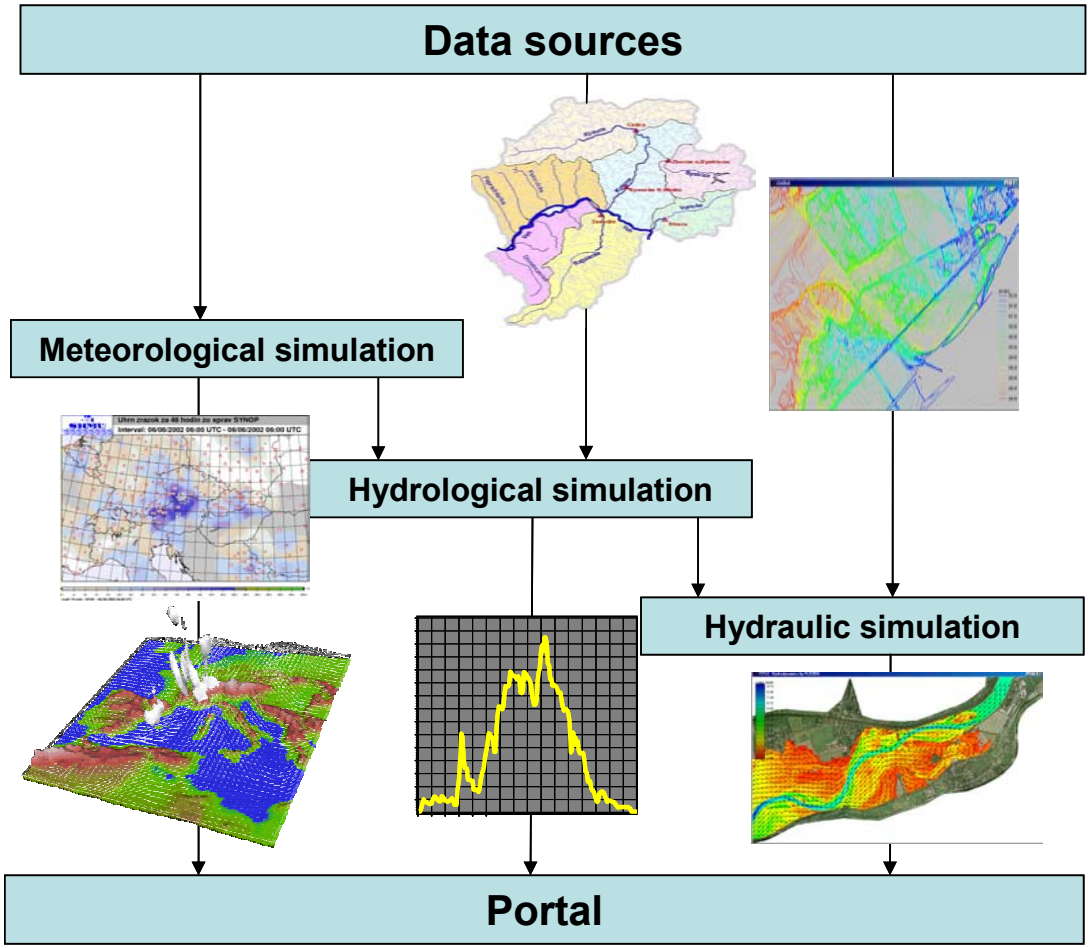
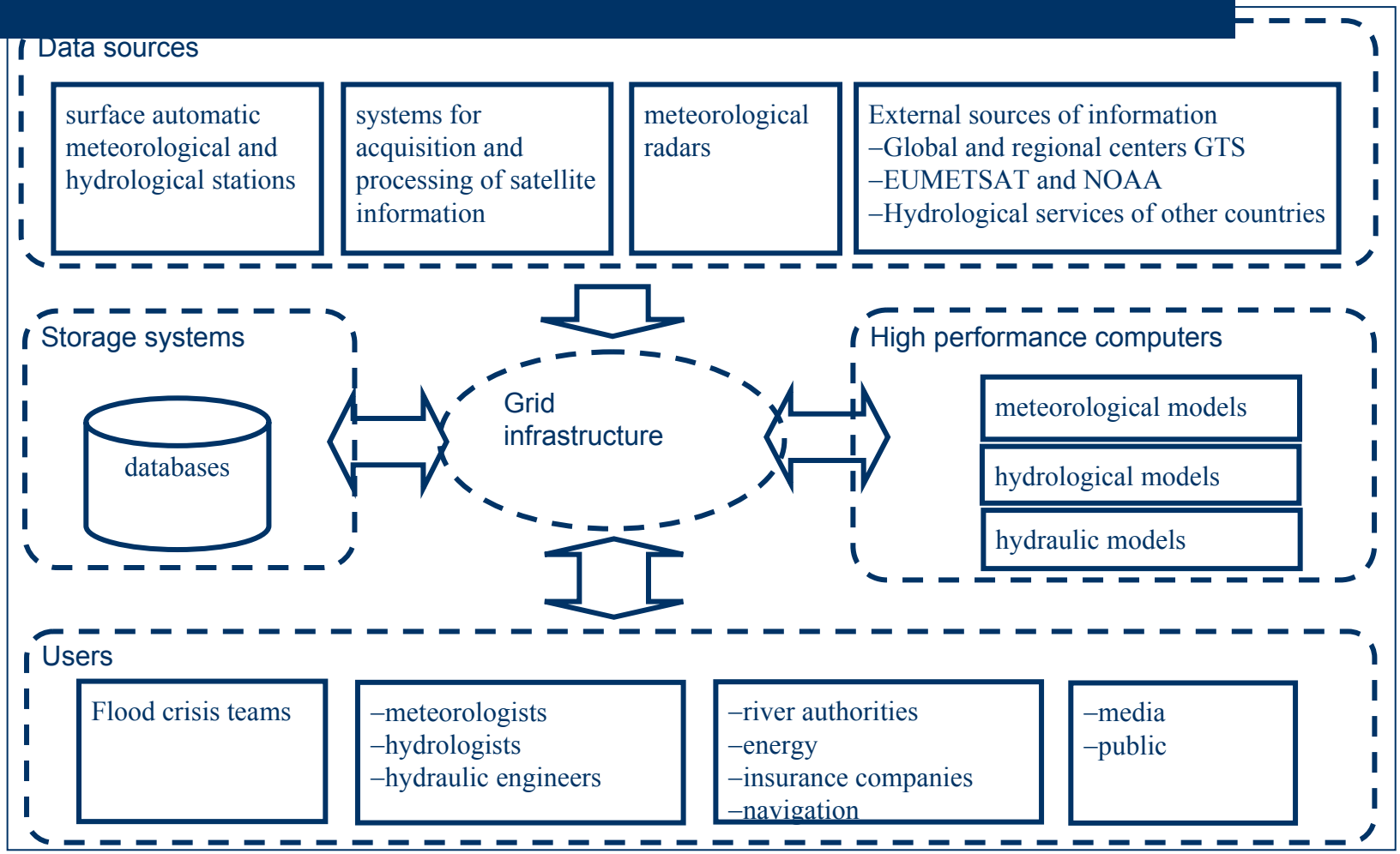
GCCP-2005 workshop, Bratislava, 30.november

Flood forecasting problem

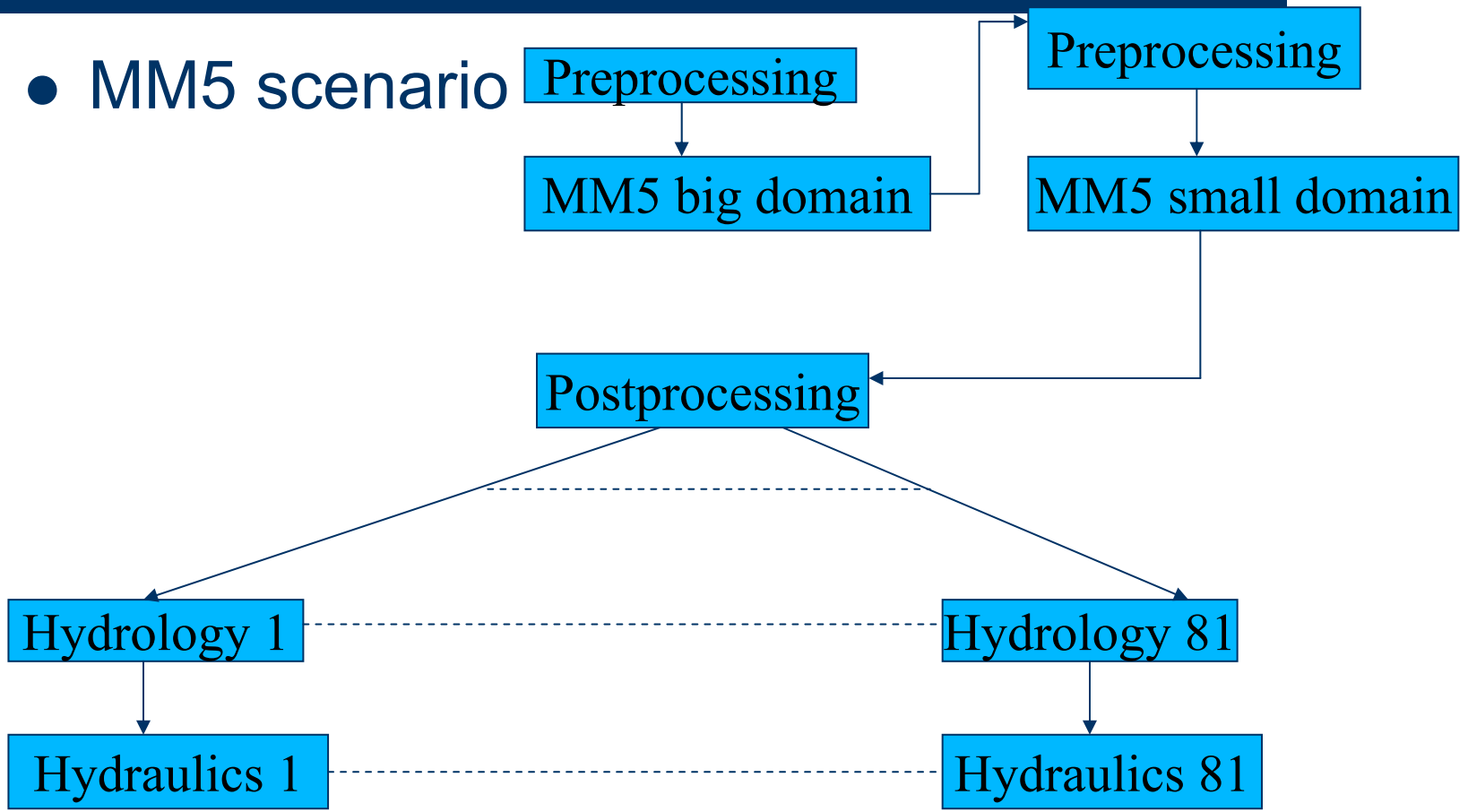


Flood Forecasting Virtual Organization

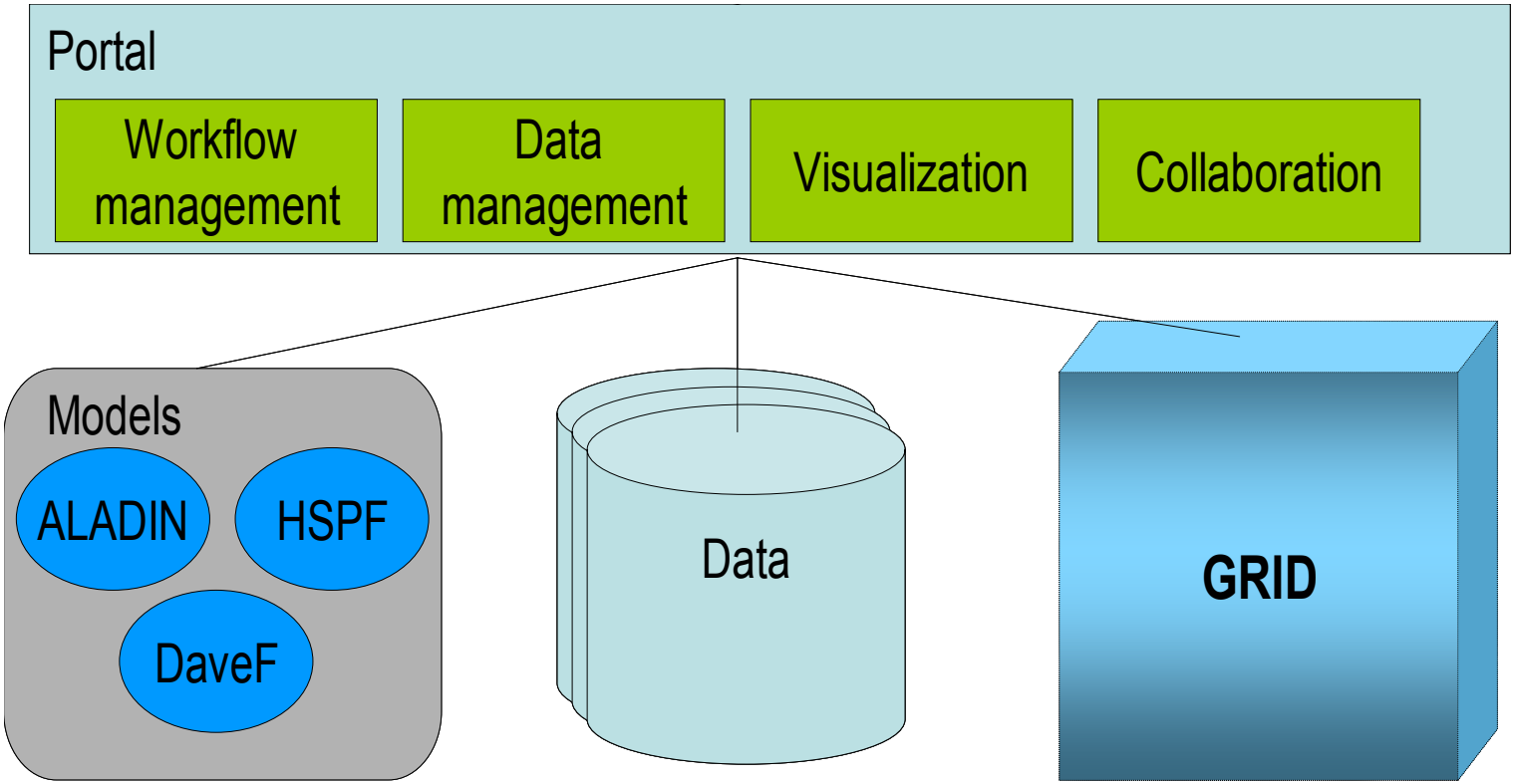


Scenario for Grid computing

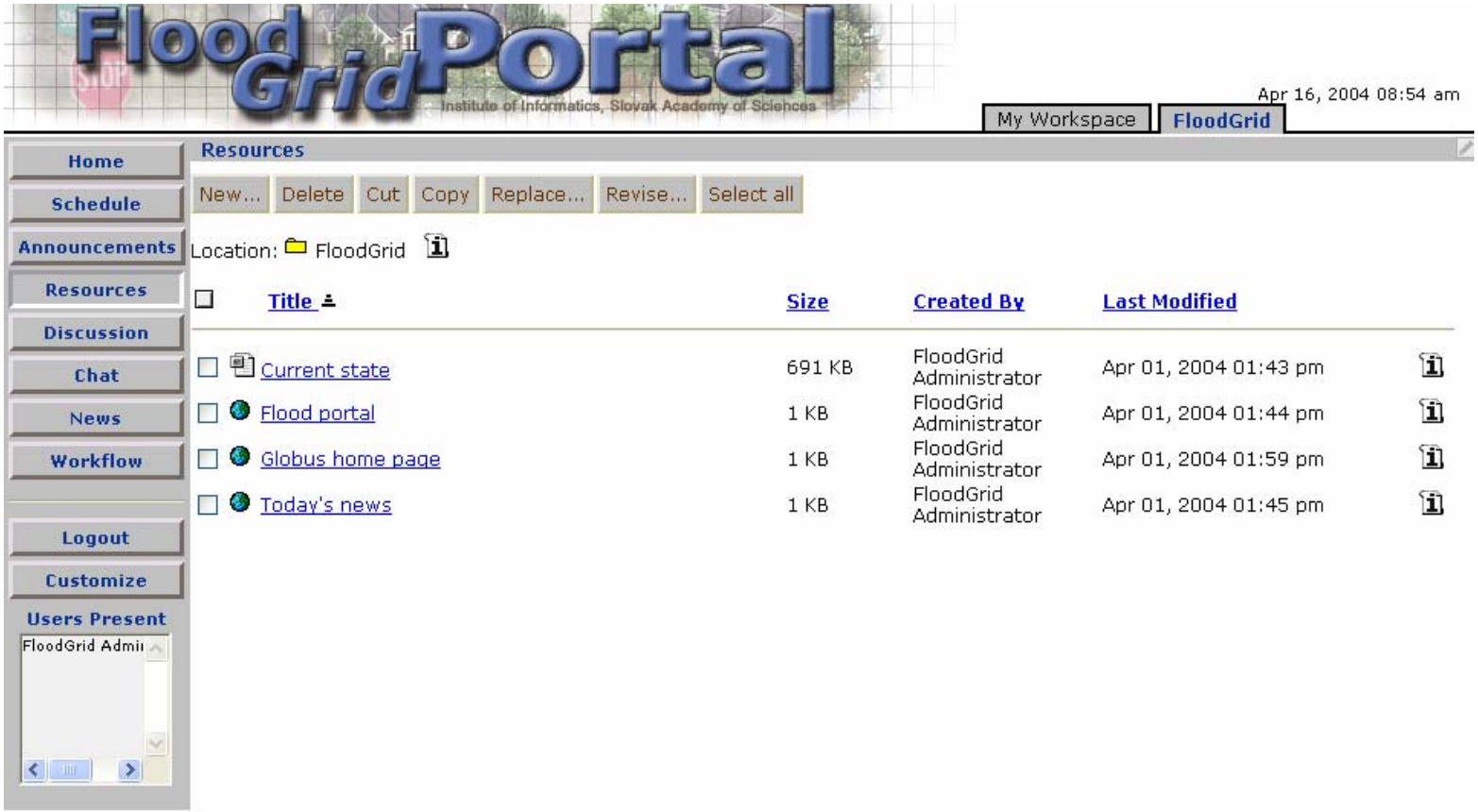
- MM5 scenario



FloodGrid Portal



Collaboration



Data management

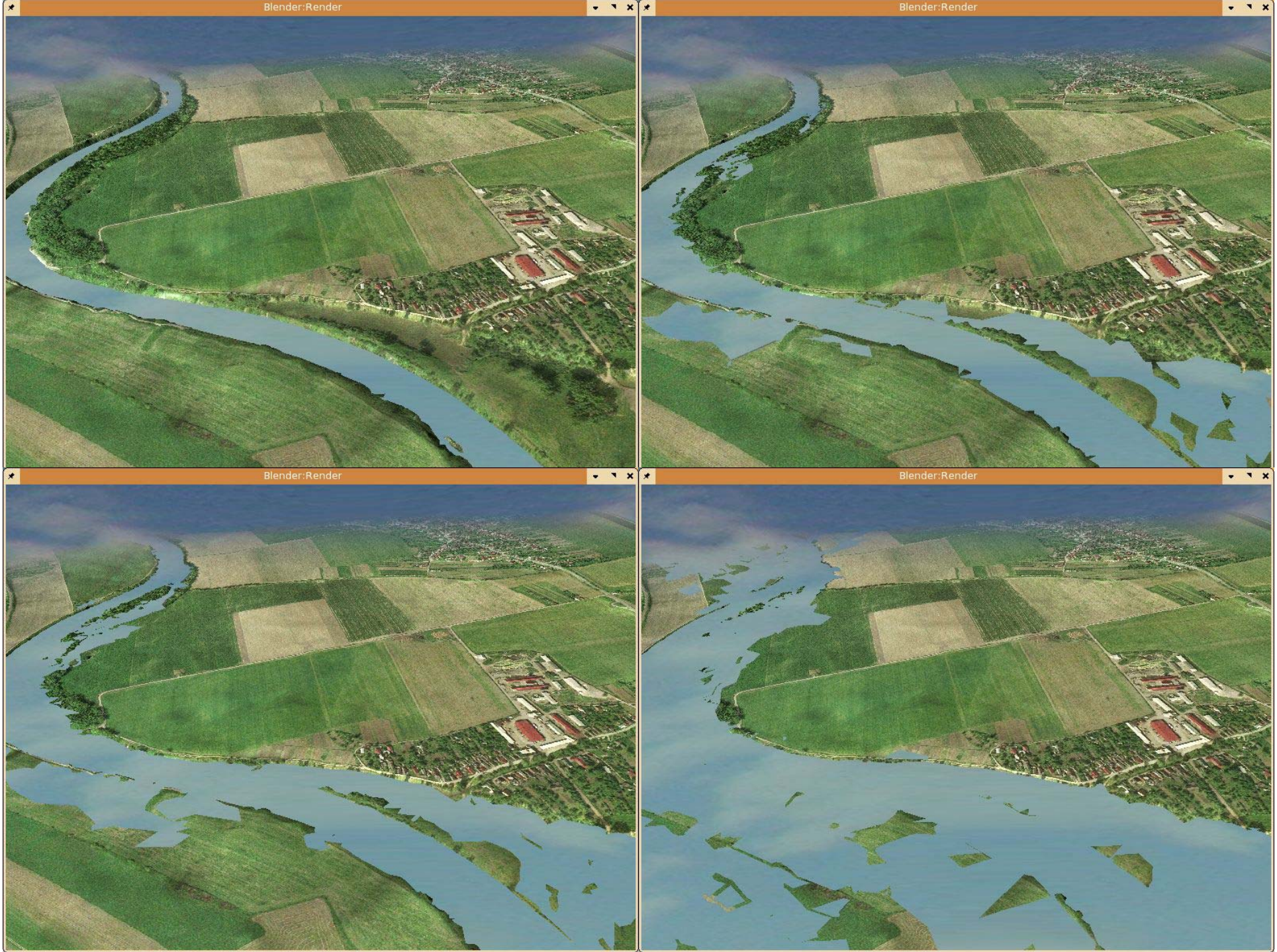
- Many kinds of data in FloodGrid
  - Meteorological, hydrological, hydraulic
  - Generated by simulations or obtained from sensors
  - Permanent or periodically updated
  - Publicly available or with restricted access
- Using metadata catalog for describing data
- Data are stored in storage elements and are accessed via Grid protocols
- Operation: query, adding, modification, deleting

Workflow management

- Manages and executes jobs with data dependences
- Cooperates with Resource Broker to find suitable computing element for running simulation
- Monitors status of jobs
- Abilities to use predefined workflow templates, spawning running workflow, modifying parameters of jobs

Visualization

Blender:Render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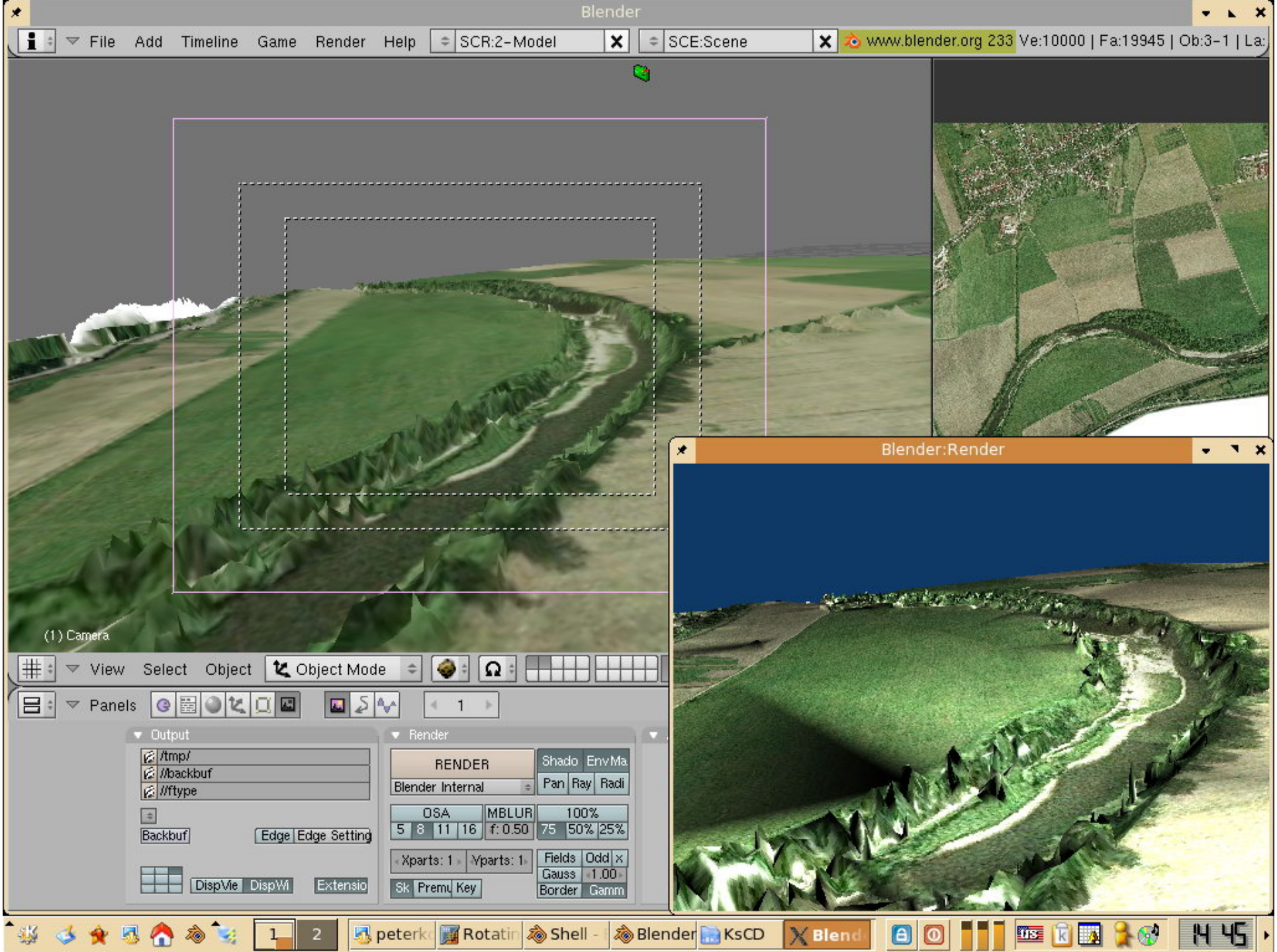
Blender
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Thank you for your attention

Now is time for live demo