Theory Interest Group closing plenary

Moscow INTEROP
2006 Sep 17-21

Main conclusions

- Theory semantics
  - New entry:
    - Release date for codes/datasets; different from version but both are important for registry
  - Improvements/recommandations:
    - Codes must be named to be registered; secondary optional name ?
    - Have a think about utypes
    - Stick to high-level description of algorithms and physics (to distinguish between code of the same nature); full details in description part
    - Refer to standard list of physical processes but must update this list
  - Difficult issues:
    - Code of codes: these codes should provide the provenance of datasets they use
    - (parallel) protocol: maybe not useful for GRIDs.
    - should all the runtime environment be described! (compiler, libraries, etc.). At least somewhere in the code/service description but not specific entry.
  - Plan:
    - Minutes have been sent to theory@ivoa.net
    - Update WD according to discussions
    - Send WD to semantics WG

Main conclusions

- SNAP:
  - Some tracks to be explored:
    - Use of STC ?
    - Cutout on physical quantity to be returned ?
  - Examples exist where axes of simulated data are not (x,y,z) (e.g. temperature, density, etc.)
    - How much ? The need for generalization should be further quantified
    - Use cases necessary
  - Plan:
    - Develop Data model and SNAP in parallel
    - Need a 'Mid-term meeting' before next INTEROP
      - likely in Garching December 06 or January 07
      - 1 'theory' representative of each national VO
      - Work breakdown between people really willing to participate to developments/implementations

Roadmap update

- **Semantics:**
  - Update according to Moscow discussions and send to Semantics WG as request
    July 31 → Sep 30

- **Data modeling:**
  - Create analysis model for simulations containing characterisation,physics, experiment, numerical algorithm; Result: WD
    Interop Moscow 2006 → **Garching Theory meeting Dec 06/Jan 07**
  - Logical model included in SNAP, Result: WD   China Interop 2007   unchanged

- **Data formats:**
  - Poll theorists about the data formats they use in their simulations, and their willingness to assist in translating these to VOTable. Result: Note   Moscow Interop 2006 → China Interop 2007
  - Example code for translating some popular data formats into binary votable
    Moscow Interop 2006 → China Interop 2007

- **SNAP:**
  - Write WD about SNAP, focusing on functionality and data formats of different types of simulations: N-Body, regular mesh, AMR; Result: WD version 0.1
    Moscow Interop 2006 → **Garching Theory meeting Dec 06/Jan 07**
  - Incorporate data models; Result: WD version 0.5   China Interop 2007 unchanged

  - Prototype applications using following possible serializations of data model (XML, Java, C#, relational model); Result: applications that "do" something with the model
    After China Interop, before Trieste Interop 2007
  - Propose as PR   Trieste Interop 2007