



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/recommendations:
 - 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 London Interop 2007
- Propose as PR London Interop 2007