

Victoria Interop

Data Models: Plenary-1

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Data Models Status

- Main active work since Madrid Interop:
 - Spectrum data model (top priority)
 - Final details in work, ready for 1.0
 - Characterization
 - Authors in agreement, needs WG feedback for 1.0
 - STC
 - Minor improvements, Arnold working on explanatory document
 - Atomic Line
 - Rapid progress - V0.5 doc really a 0.9, promote to 1.0 soon?

Victoria Goals

- Spectrum
 - Decide whether to include STC/Char for 1.0
 - Decide if ready to move to PR
- Characterization
 - Community input on V0.9 document:
 - do we proceed to PR? What changes are needed?
- STC -
 - waiting for doc, are we otherwise ready?
- Atomic Line
 - Decide if ready to move to PR

Data Models Next Steps

- User guides and software to encourage adoption
- Reuse small component models
 - Characterization/Coverage
 - Curation
 - Accuracy
 - DataID, Target
- Issue as separate docs?
 - for discussion

Spectrum

- **New document version 0.96d**
- <http://hea-www.harvard.edu/~jcm/vo/docs/spec96/spec96d.pdf>
- Changes since last Interop:
 - Complaint that SED approach too complicated if you just want to do a single spectrum
 - Split SED material to separate document sed96.pdf
 - You can have a single Spectrum object and not have to deal with the multi-Segment SED case, but those of us who want full SEDs can do that too. Separate and very small XSD schema for SED to aggregate individual Spectra.
 - Minor modifications to XML and FITS serializations
- Existing implementations (e.g. JHU) will need upgrading; wait until 1.0?

Spectrum

- Changes that need to be made:
 - Replace Coverage and Frame with Characterization and STC
 - Attempt at this in V0.97 Spectrum document
 - Fallback: don't do this for V1.0?
 - Review FITS serialization
 - Minor fixes to sync up SSA protocol and SED DM - but most of these overlap with the Characterization issue.

Spectrum

- XML Schema compact serialization
 - Tamas implemented a simpler “Point” that uses attributes instead of many elements for Flux, SpectralCoord etc.
 - Much more compact; a denormalization of the model for efficiency
 - SAO has implemented a “FlatPoint” object along the same lines
 - Would like to have both “FlatPoint” and the original verbose “Point” as alternate elements:using SubstitutionGroup

Spectrum

- Java implementation (K. McCusker, SAO)
- Library to parse XML, VOTABLE and FITS serialization
- Convert between serializations
- Sample programs to plot spectrum
- Alpha release for comments expected this week
- JavaDoc plus (!) user 'Technical Specification' in English...
 - still need to upgrade to a simpler user document
- Reference implementation to meet requirements of IVOA standards process
- Supports both single Spectrum instances and full SED instances

Characterization

- New version 0.9 of document
- EuroVO/Astrogrid - Work by Bonnarel, Louys, Micol, Richards
- <http://www.ivoa.net/Documents/Notes/DMAstroDS/DMAstroDS-20060228.pdf>
- Document includes XML schema and VOTABLE example
- Supports multilevel approach to describing different axes of data
- Aladin implemented part of schema internally
- Working to V1.0 at Victoria

Atomic Line Model

- Dubernet, Osuna et al (Paris, ESAC)
- In conjunction with SLAP (Simple line Access Protocol)
- V0.5 draft now public
- Handles atomic and molecular lines
 - Line, Level, Species, QuantumNumber, Process, Environment
 - To support both theoretical and observational line lists
- Document includes XML schema