VIRTUAL ASTRONOMICAL OBSERVATORY

Spectral DataModel V2.0

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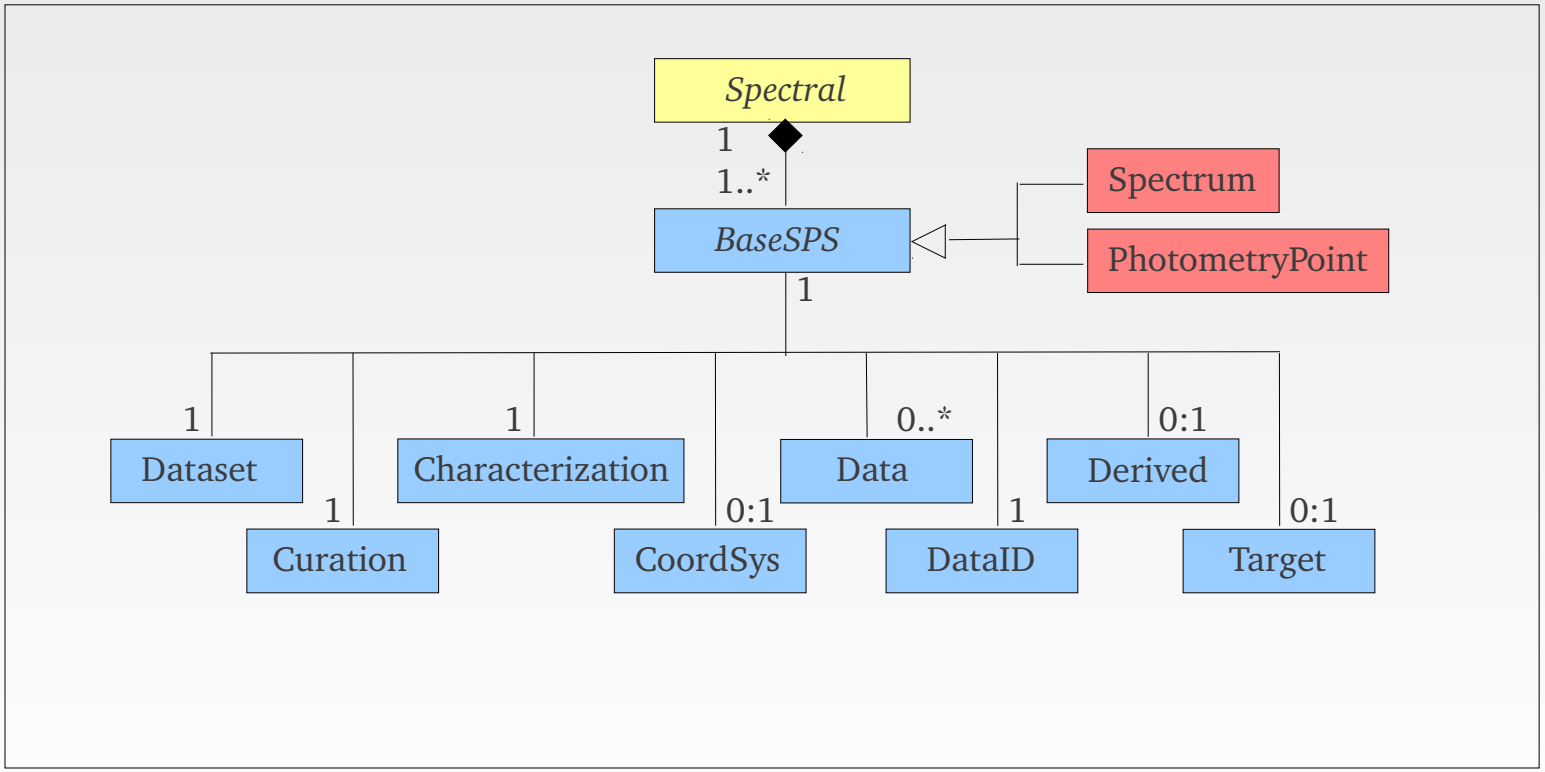
Goals

- Primary
  - To extract a generalized model for Spectro-Photometric sequences to serve as a basis for specific case models.
  - To define Spectrum and PhotometryPoint models in terms of this base model.
  - To incorporate photometry filter model components.
  - To clarify and resolve issues from earlier versions.
  - To min. effect on existing interfaces (change utypes)

Base Sectro-Photometric Sequence



Defining specific case models

- Defining a specific SpectroPhotometric case becomes a relatively simple process.
  - Define case (Spectrum, PhotometryPoint, etc)
  - Declare datamodel prefix (“spec”)
  - Define axis requirements
  - Define field requirements (if different from base)
  - Define semantic differences in object usage/meaning.
  - Define model extensions for that case
- Spectrum and PhotometryPoint are 2 pages each

Progress

- Since last interop.
  - review of document text and scrub of comments/questions
  - review of Utype list, added Utypes for model nodes
  - reworked Units section to specify VOUnit 1.0
  - exercise model with 'prototype' examples of various extensions
    - PhotometryCatalog, TimeSeries, TransmissionCurve

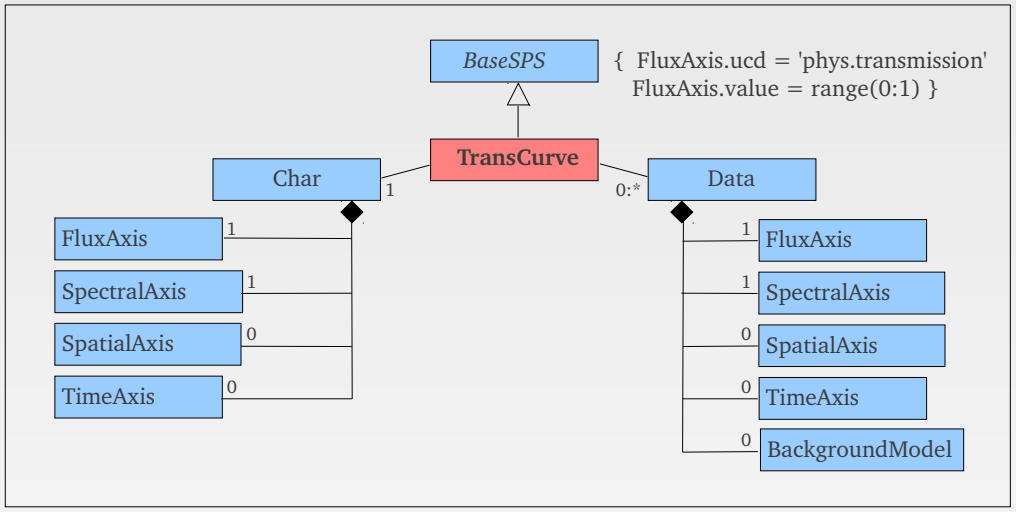
- Posted Working Draft to Documents page (10/09)
  - http://www.ivoa.net/Documents/SpectralDM/20120907
  - Discussion ongoing at DM mail list (dm@ivoa.net)

Feedback

- UCD definitions for Spectral and Flux Axes.
  - Data.FluxAxis.Value = one of many from list
    - e.g. “phot.flux.density;em.wl”, “phys.transmission”
  - Data.FluxAxis.Accuracy.* = specific
    - e.g. “stat.error;phot.flux.density; em.*”
  - Presumably, they all should use the same UCD word
    - “stat.error;[Data.FluxAxis.ucd]
- Clarify validity of “phot.flux” vs “phot.flux.density”
  - currently former is invalid, but we see it in data.

Future..

Transmission Curve as extension of BaseSPS



TimeSeries as extension of BaseSPS