IVOA PROVENANCE DM
CURRENT STATUS

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Provenance in the IVOA

- **Explains how data sets were produced:**
  - Observing process and conditions
  - Data reduction, selection and extraction methods applied to raw measures to build up science-ready data products (source lists, spectra, light curves, images, …)
  - Worflows to build theorical data (spectra, images, …)
- **Helps VO users to:**
  - Derive selection criteria to filter out suitable data for his/her scientific needs
  - Estimate better which data release fits the best for their needs
  - Run his/her own reduction method on intermediate data products in order to refine data analysis
  - Apply dedicated worklows

Provenance in the W3C

W3C Provenance definition:

« Provenance is information about entities, activities and people involved in producing a piece of data or thing, which can be used to form assessments about its quality, reliability and trustworthiness. PROV-DM is the conceptual data model that forms a basis for the W3C provenance (PROV) familiy of specfications. »

4 recommendations (30/04/2013)

PROV-DM: the PROV data model

PROV-O: the PROV ontology

PROV-Constraint: Constraints of the PROV Data Model

PROV-N: a notation for provenance aimed at human consumption

and a number of non-prescriptive notes
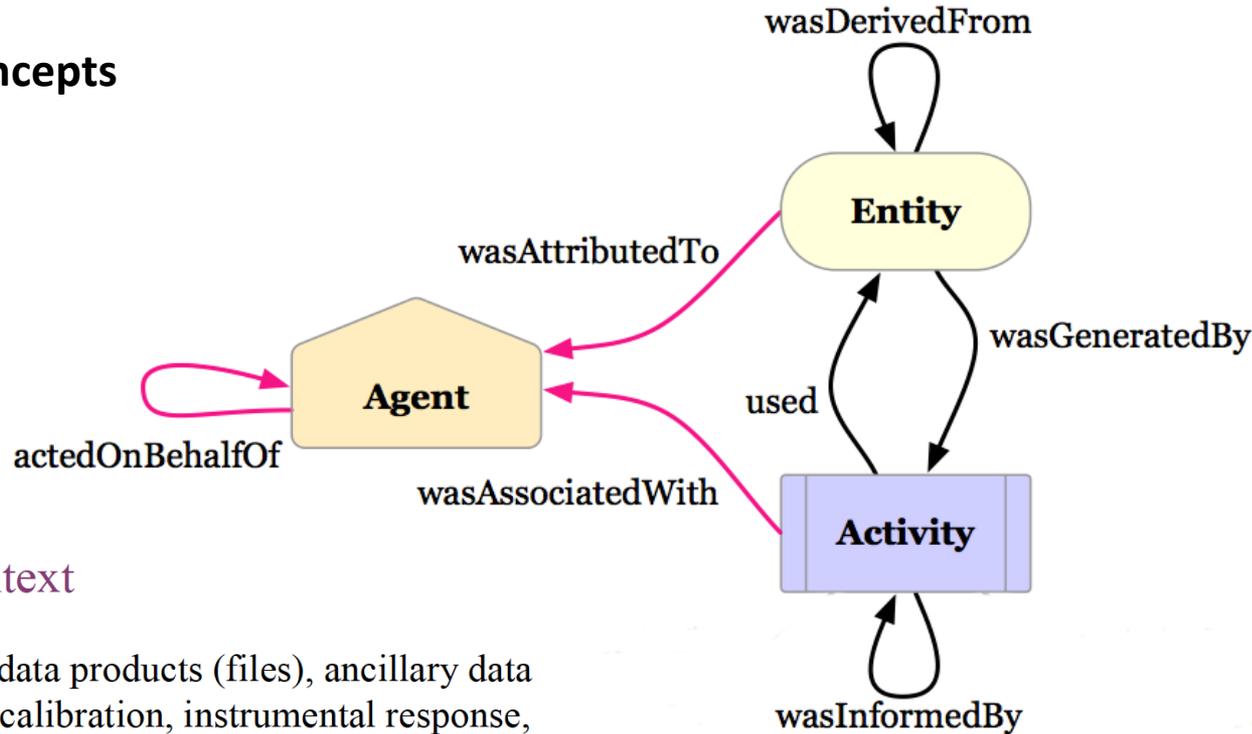
PROV-XML: an XML schema for the PROV data model

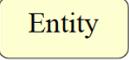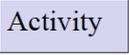PROV-AQ: Provenance access and query

Benefits:
- Four recommendations and a number of non-prescriptive notes
- Tools to validate and translate a description format in another one
- Possible to define our own attributes

W3C Provenance Data Model

Core Concepts

In our context

Entity ■ data products (files), ancillary data (calibration, instrumental response, etc.), processing parameter files

Activity ■ data acquisition, mosaicing, regridding, fusion, calibration, …, transformation

Agent ■ Telescope astronomer, pipeline operator, principal investigator, etc.

Current status of IVOA Provenance DM

Rich and diverse projects explored for Usecases

- CTA, RAVE, Pollux DB, SVOM

- A Core Provenance Model designed in WD

- ProvDM1.0-20170217.pdf

- Available on IVOA document repository

- WD, implementation examples

- Tools development

- hackaton page

Discussion to happen here @hackaton sessions

Provenance WP management

Provenance days : meeting site
http://wiki.ivoa.net/twiki/bin/view/IVOA/ObservationProvenanceDataModel

Reports and discussions at DM sessions during the Interop meetings

Connections to interdisciplinary projects

A Provenance WP under development