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ACDM5. XBRL Database Progress and Update

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EXPERIENCE

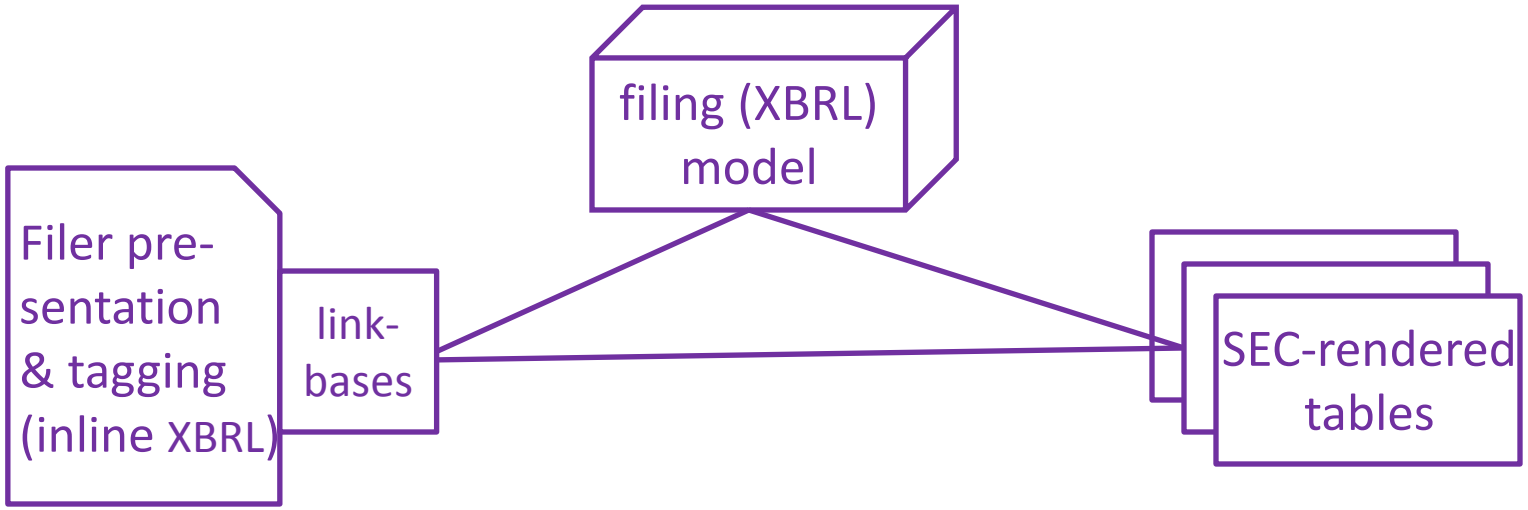
- XBRL instances – 17 years
  - One report per instance
  - Received by regulators
  - Put into databases
- XBRL databases – 10 years
  - Sliced and diced XML into SQL
    - Not interchangeable, lack of model structure
  - Tried to love technologies
    - NoSQL, hybrids, custom DB

U.S. SEC Databases

- Contain all tagged data
  - Disjoint from schedules, tables, notes
  - Difficult to consume
- Requires projecting onto views
  - Infer fact's schedule/table
- SEC algorithmically produces tables
  - Now possible to relate data to usage

Impact of Inline XBRL to U.S. SEC filings

- Three views of data
  - Filer view of tagged data
  - XBRL model of tagged data
  - SEC algorithmic view of tagged data

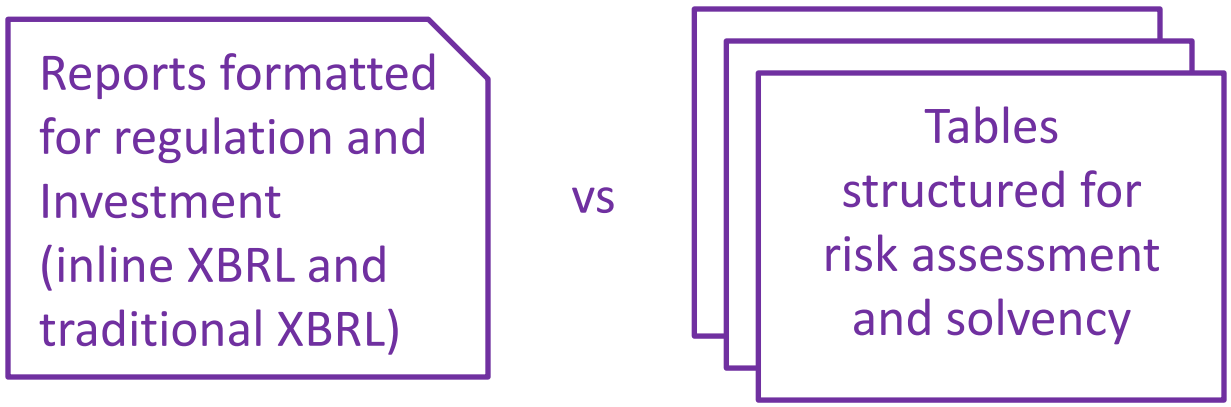


EIOPA – two data views

- Dual views with data points modeling
  - Model structure data
  - Table view of data
- Database consists of
  - DPM abstract model tables
  - Classical data tables

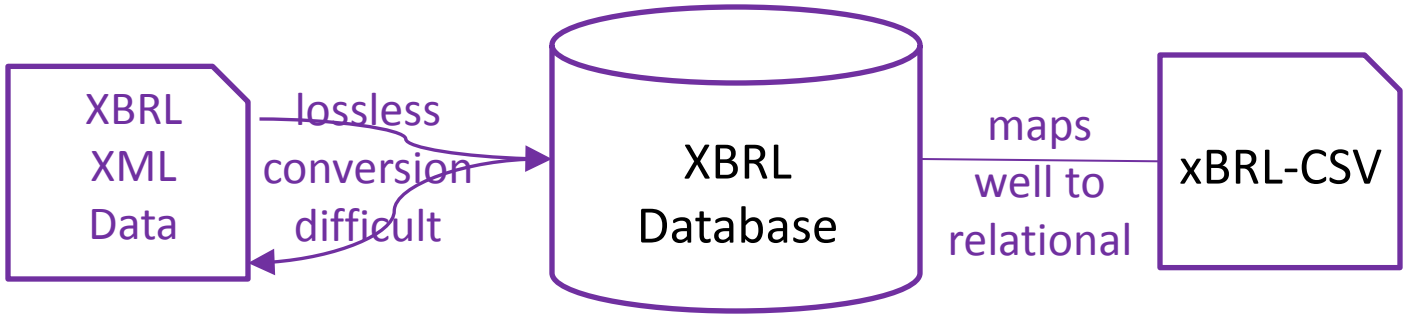
Opposite model origins

- Financial filings (SEC)
  - Presentation for business / investment
- Prudential filings (EIOPA)
  - Tables structured for risk assessment



New trends

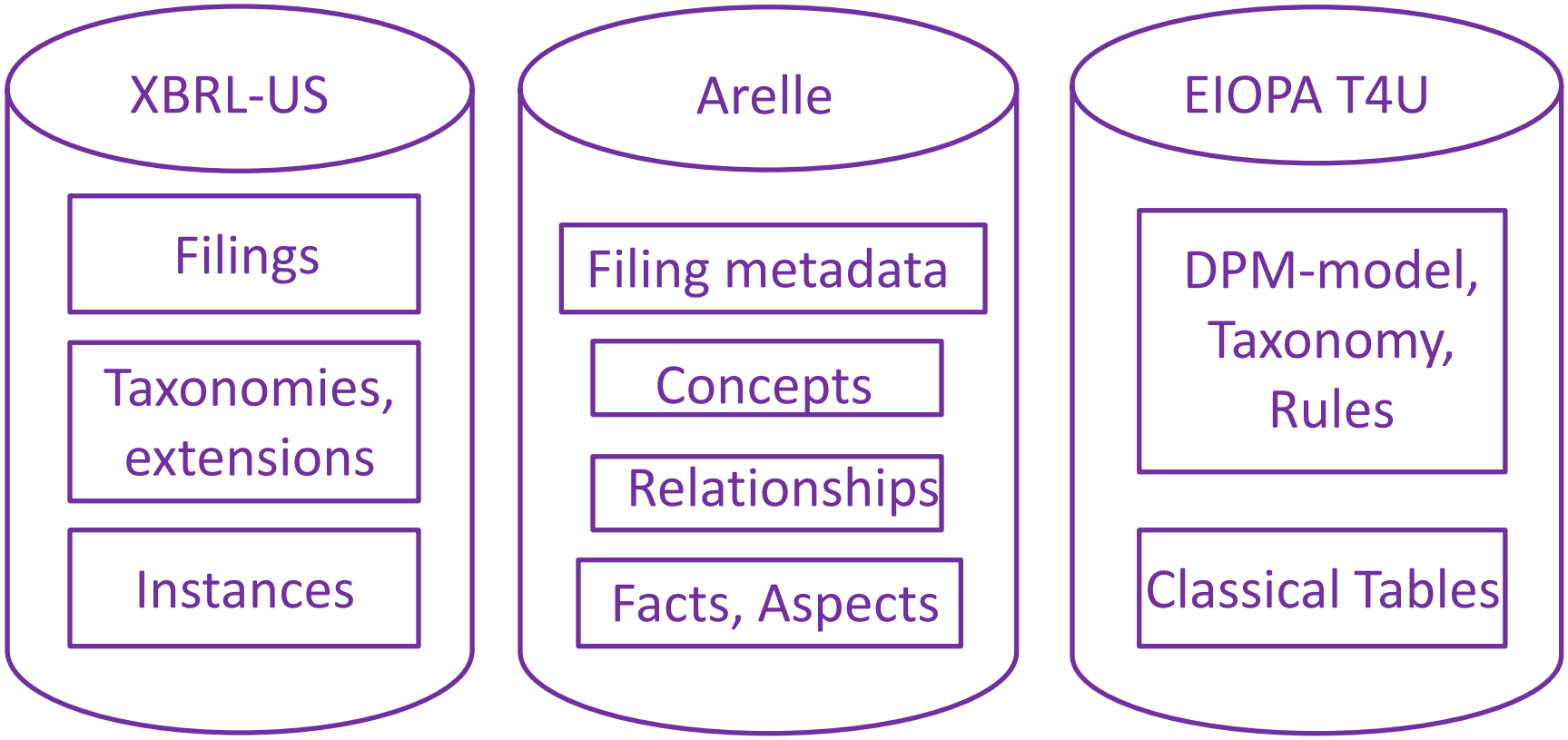
- XBRL detachment from XML
  - CSV has similarities to SQL tables
- Lossless transformation less important
  - Model based accuracy vs
  - Consumption accuracy



Diagramatic Views

- XBRL-US public database
  - XBRL Syntax and SEC filings
- Arelle's database
  - Abstract model (moving to OIM)
- EIOPA's DPM database
  - Both abstract and classical table models

Database architectural strategies

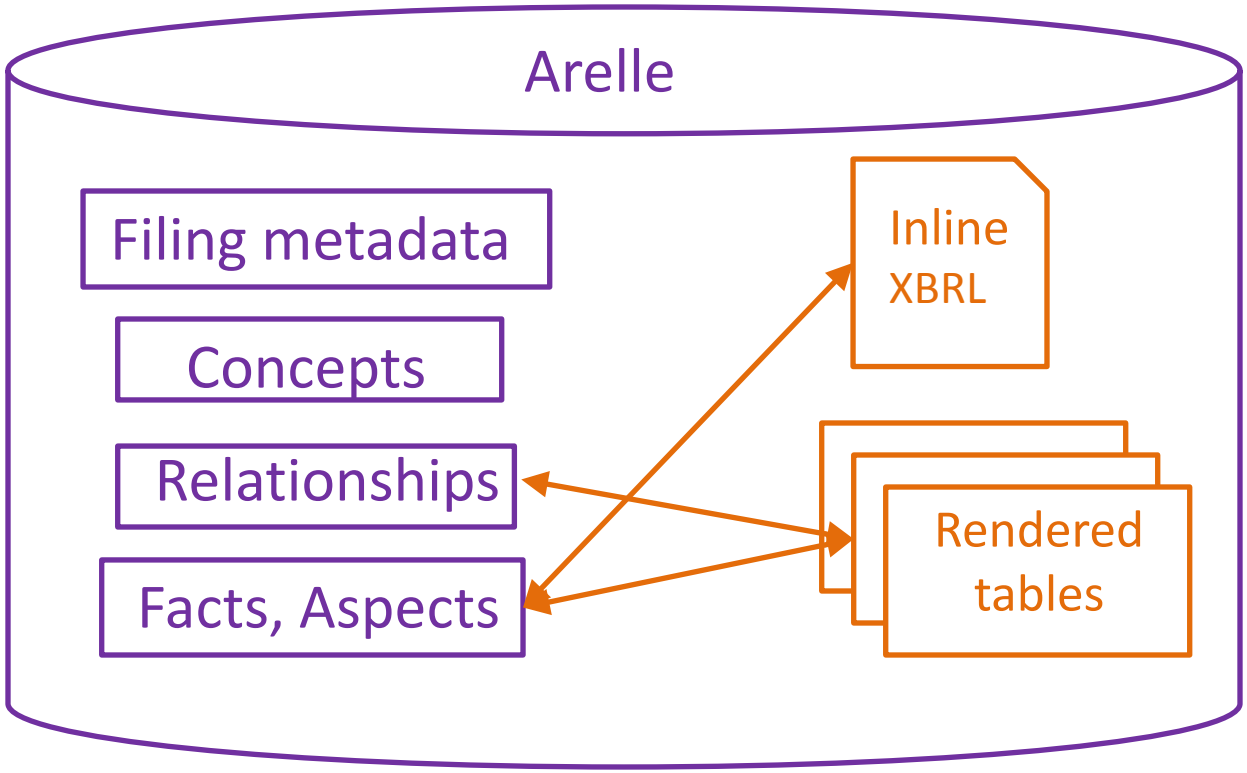


SEC Filing Model

XBRL Abstract Model

DPM Architecture

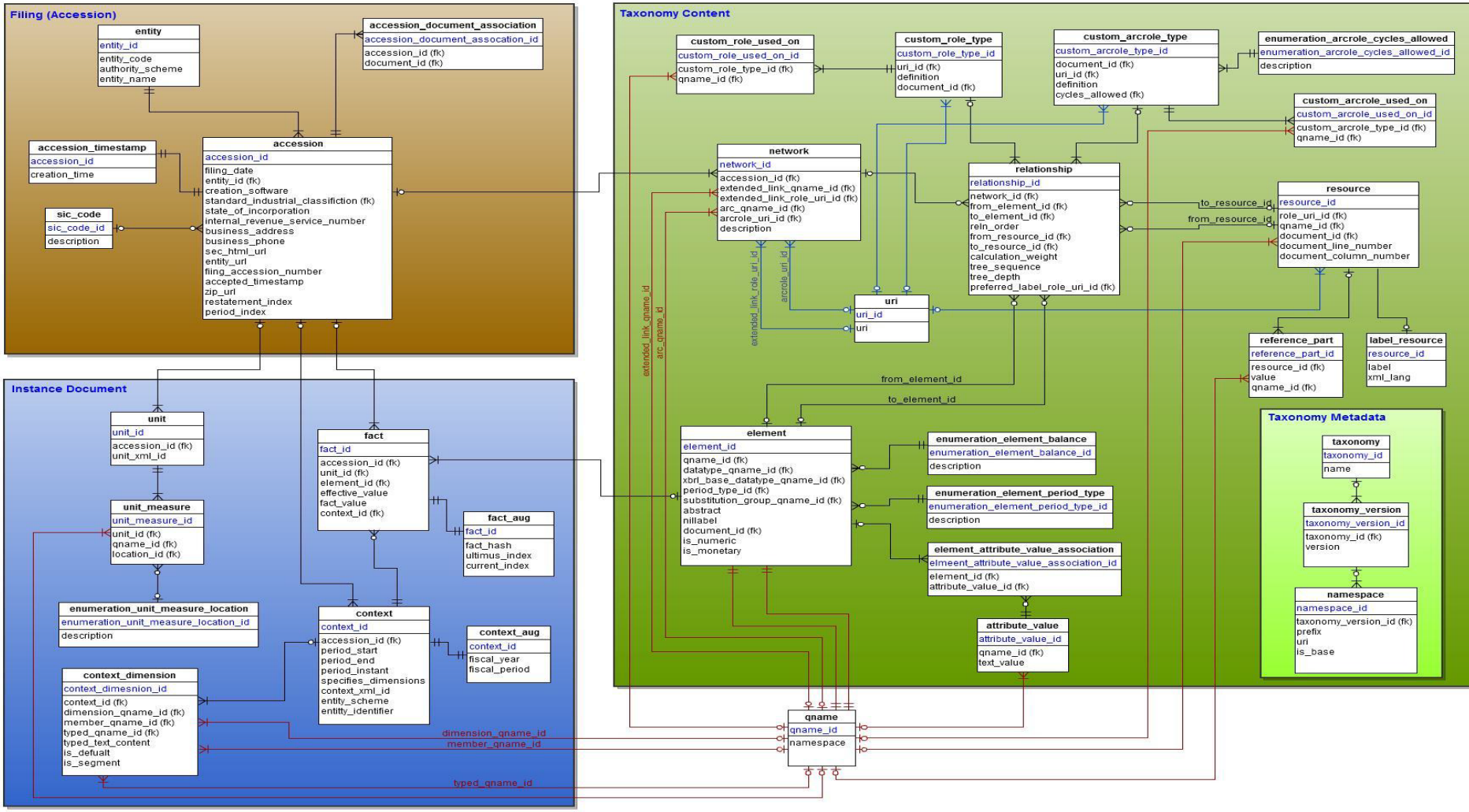
Developments influence database evolution



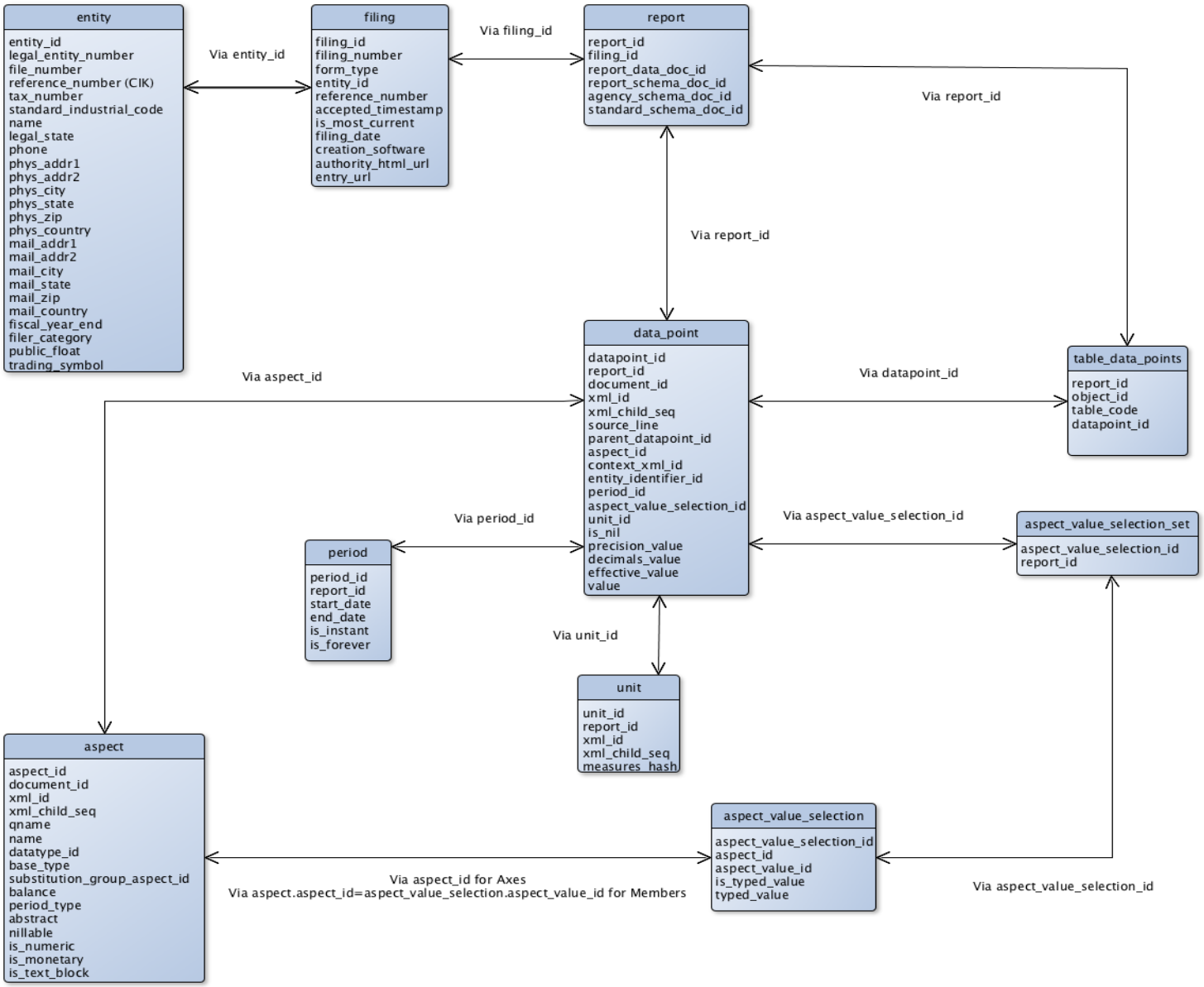
original abstract model

moving toward OIM

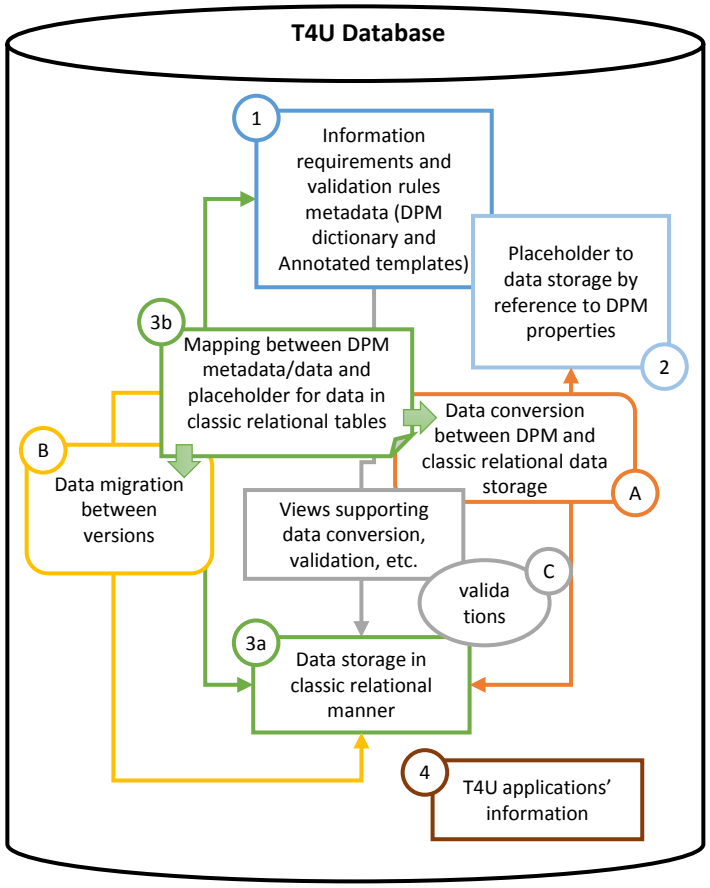
XBRL-US Public Database



Arelle's main tables



EIOPA DPM T4U Database



A. data conversion between DPM and classic relational data storage

B. migration of data stored in classic relational manner between the versions of the database

C. validations (including views supporting data validation and aggregations)

Tables in DPM database