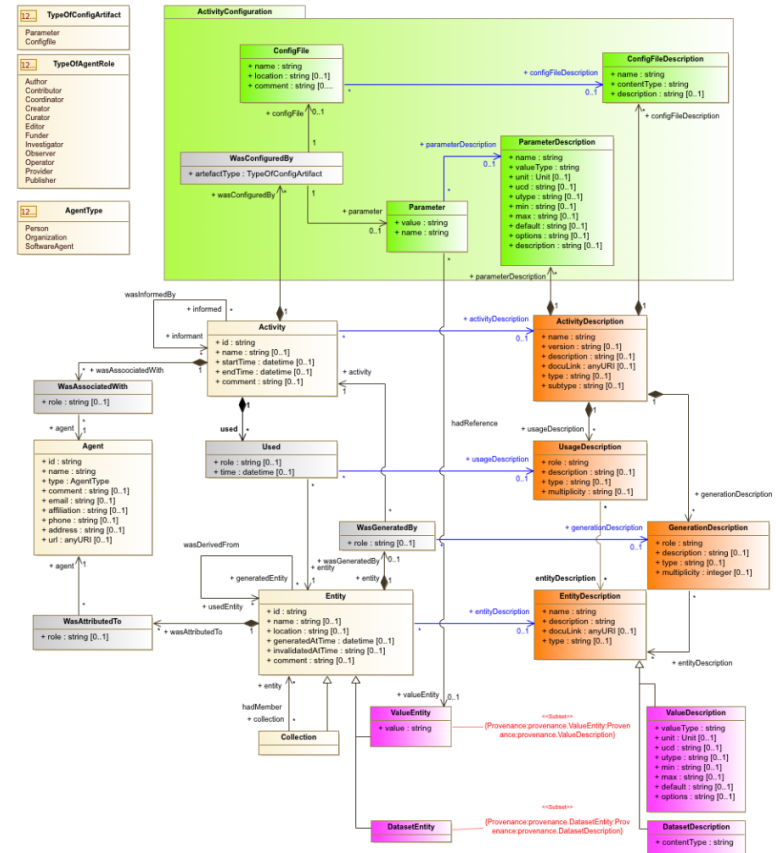




# Python module: voprov Context



- Project: voprov (multi experiments)
- Objectives: Provide a Python module allowing developers to **serialize** and **visualize** in different formats the provenance of an object according to the IVOA Provenance Data Model





# Python module: voprov

## Technology used

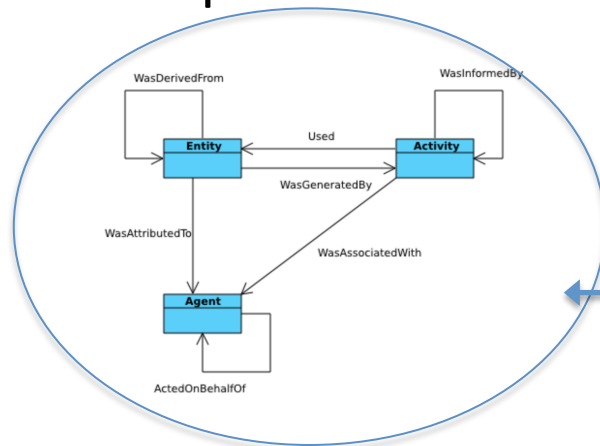


- Python 3

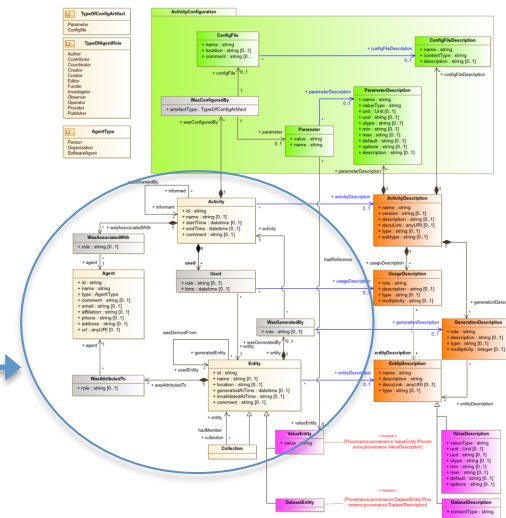
Development in progress made by Jean-François Sornay, trainee at LUPM

- <https://github.com/sanguillon/voprov/tree/JFS>
- Based on the prov module which implements the W3C Prov-DM model (developed by Trung Dong Huynh)
  - <https://github.com/trungdong/prov>
  - <https://prov.readthedocs.io/en/latest/>

- Based on prov module



W3C Prov-DM



IVOA ProvenanceDM



# Python module: voprov

## Example



### Python Provenance narration

```
from voprov.model import VOProvDocument
...
provdoc = VOProvDocument()
...
provdoc.activityDescription('pollux:SpectralSynthesis',
                             name='SpectralSynthesis',
                             version='V9.0',
                             description='Spectral Synthesis Software')

provdoc.isDescribedBy('pollux:SpectralSynthesis_12345',
                      'pollux:SpectralSynthesis')

...
```



# Python module: voprov

## Example



### PROV-JSON serialization

```
{...
"activityDescription": {
  "pollux:SpectralSynthesis": {
    "voprov:name": "SpectralSynthesis",
    "voprov:version": "V9.0",
    "voprov:description": "Spectral Synthesis Software"}},
"isDescribedBy": {
  "_:id5": {
    "voprov:described": "pollux:SpectralSynthesis_12345",
    "voprov:descriptor": "pollux:SpectralSynthesis"}}
...
}
```



# Python module: voprov Example



## PNG visualization

