

## Expert exchange program report

The VOEvent server have been previously to my venue, build up to be able to test VOEvent ingestion in Vespa. The main discussion was on the workflow for making an interoperable system to store event and a Vespa access to search into events and retrieve the initial full event.

System is now install in Observatoire de Paris of a VOEvent broker call `voparis-comet.obspm.fr` and a Vespa EPN-TAP server very recently build not already referenced called `voparis-tap-voevent.obspm.fr`.

We have worked on the two draft services of VOEvent : service of meteor shower (from IMCCE), solar prediction test from SRC/WAW, and in Toulouse pressure prediction from CDPP.

From these 3 implementations we have tried to derive some standardized parameters to express VOEvent inside Vespa on the frame of Europlanet. Some parameters are specifics to characterize an Event : status and description. Others parameters are mappable on EPN-CORE data model.

The goal is to be able to search for specific event using the vespa interface or dedicated client like Topcat. Typically theses parameters are time and target.

we had long discussion on how to express the specificity of event due mainly that our specific cases have source like solar wind or comet trail and targets are planets or earth. Vespa search system is firstly dedicated to observations of specific target(s) and source is not express at the same level. The search of VOEvent have to handle this complexity.

We firstly agree on defining a sets of parameters and their specific used of EPN-CORE for the case of VOEvents. We in fact have open the discussion to a larger group of people so we used now the wiki confluence to change the definition and status of theses specific parameters, tipically :

- \* `instrument_host_name`, `instrument_name` will be used in a specific way to specify the code that have been used to calculate the prediction. `instrument_host_name` will take the value "simulation" + and `instrument_name` will be code reference, including version number.

- \* `target_name` and `time_min/max` describe the event location and time in all cases. Parameter `event_mode` says if this is a source event or a consequence (if the event propagates). Related events (cause and consequences) have the same `granule_gid`. We didn't completely agree if it will be useful to keep source and target in `target_name` and `target_type`. Discussion is still effective on the subject now,

conclusion may change.

Alternatively: event\_origin\_target, event\_origin\_time: provide location and time of an initial event. If the event propagates in the Solar System (usual case), target\_name and time\_min/max provide the location and place where effects are observed. Related events (cause and consequences) have the same granule\_gid. This is subject to controversy at the time of report writing

event\_type: provides a type of event from a pre-defined list (e. g., meteor\_shower...). The list will increase with the diversity of services

event\_status: distinguishes prediction, observation, and utility (e. g., local event related to an instrument, like a change of detector)

event\_cite: can be "followup", "supersedes" or "retraction", TBC (alternative is to update the event lists)

I have rebuild the construction of my VOEvent from row data to fulfil the new requirement and construct the reading procedure and ingestion of VOEvent to construct a dedicated service in the Vespa server.

The new server voparis-tap-voevent.obspm.fr host meteor\_shower and a test service of solar prediction that will soon be removed as the Polish team have used it in their VOEvent service.

This full two days of work have been very useful even if we have not fixed the nomenclature of all the parameters. Many sleeping subject have been dig out and highly discuss. I hope that before end of September we will have a consensus on controversy term and standardize the process.