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Unique identifiers for facilities and instruments in astronomy and planetary science : a project

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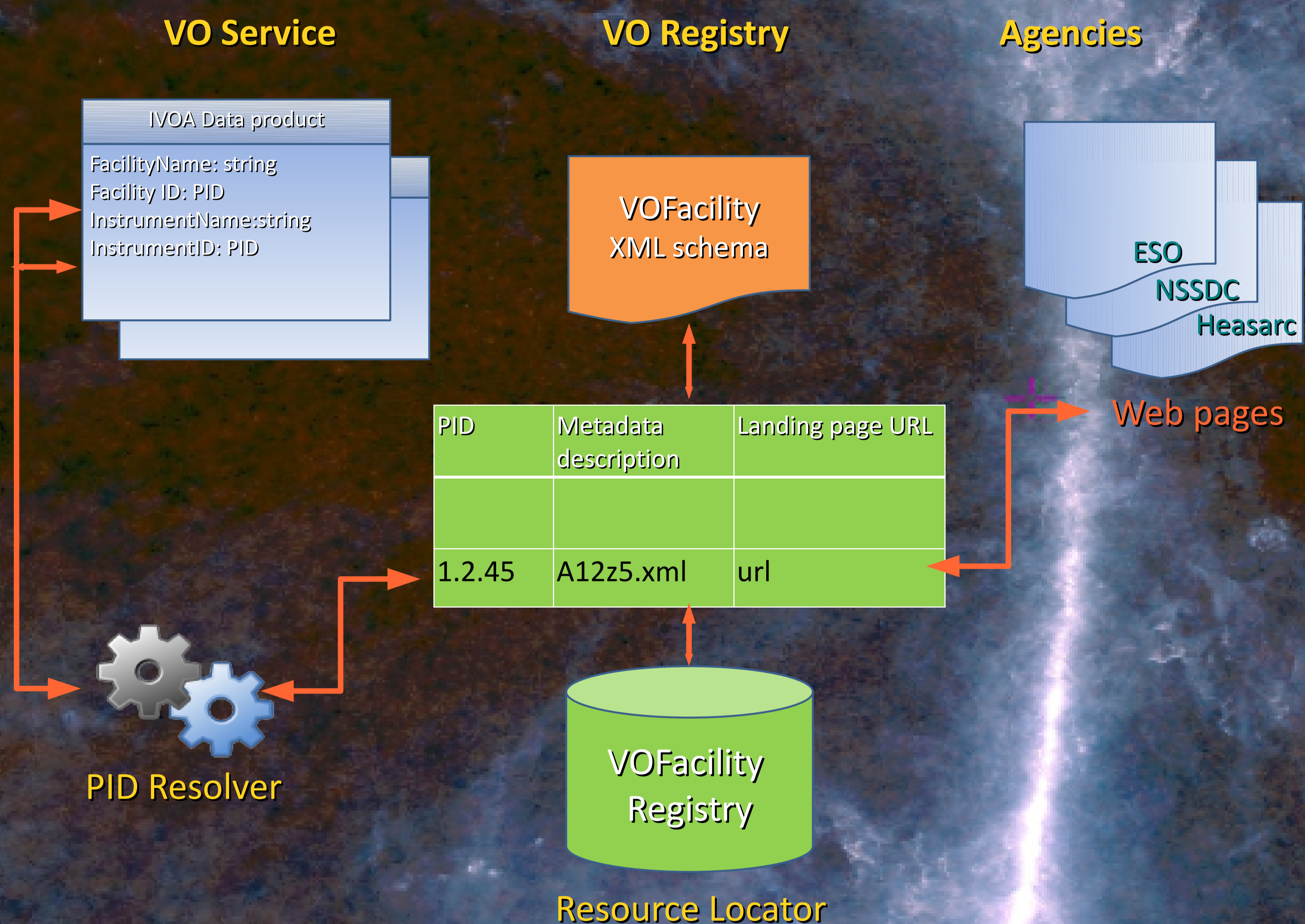
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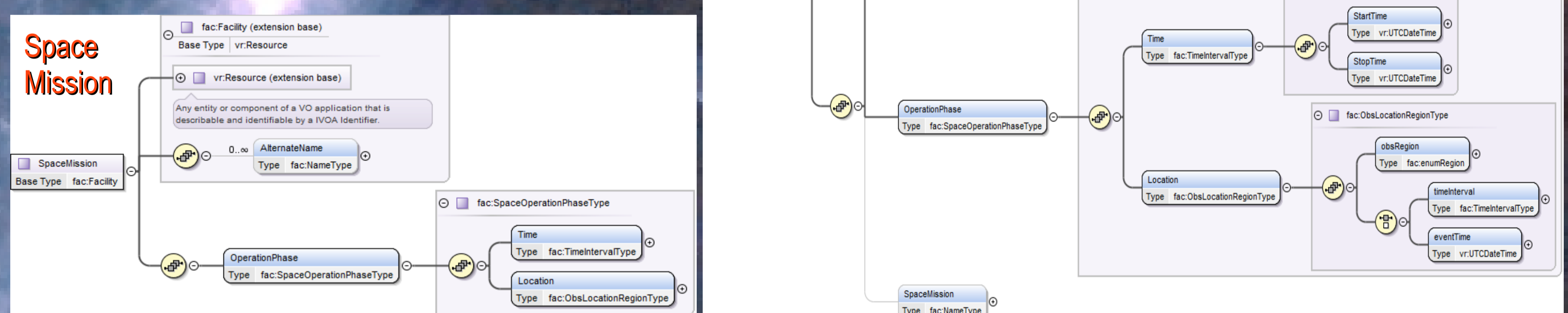
Distributed services for observational science in planetary and solar physics like EPN-TAP^[1] and ObsTAP^[2] need to stabilize a **common vocabulary** for designating a **Facility**, a common term here to gather Observatory, Space-craft, Space mission concepts, and **Instruments** used in the observation process. This would allow semantically consistent query interfaces to retrieve observation datasets from multiple archives.

Data citation as used in science articles could also benefit from a **common index** for **Facility** names and identifiers. A Facility could then be cited in a **unique** and **persistent** way across journals and data collections.

Most agencies and publishing services already maintain and provide names and identifiers for their facilities, but up to now in an un coordinated manner.



VO Facility metadata profile



Data products compliant to EPN-Core and ObsCore Models (left) bear a facility and/or an instrument controlled name as well as related persistent identifiers in their metadata profile.

PIDs can for instance be minted as DOIs⁴ and resolved by DOIs resolvers.

The VOFacility Registry, as a 'resource locator', provides Facility metadata following the simple VOFacility model as a simple document in XML or JSON.

It also provides the link to the PID landing page built up and maintained by agencies.

Description for new instruments and space missions, f. i. is easy to implement as a VO registry service³.

Tagging facility names with PIDs into science articles would allow the reader to retrieve alternative names for instance, but also link to all published documentation about it.

References :

¹The EPN-TAP protocol for the Planetary Science Virtual Observatory. Astronomy & Computing, doi:10.1016/j.ascom.2014.07.008

² ObsTAP specification : <http://www.ivoa.net/documents/ObsCore/>

³ IVOA Registry extension : <http://www.ivoa.net/documents/StandardsRegExt/>

⁴ https://www.doi.org/doi_handbook/1_Introduction.html

