Validation and quality assurance for IVOA services

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Abstract: VO Paris Data Centre is a collaboration between Observatoire de Paris, IAP, and IPSL to promote the Virtual Observatory and develop data centre activities. Our mission is to share the data centre infrastructure as well as the knowledge in standards and software, and competence in technologies. Our implication in standards development and participation to the IVOA (International Virtual Observatory Alliance) led us to develop a service validator. After this first step we decided to gather statistics on service compliance in the IVOA. We also tried to define metrics to characterize their evolution. Finally, we plan to contact providers to encourage them to modify their services so that they become VO compliant.

DAL Validator

Available at http://voparis-validator.obspm.fr this validator has been developed to validate Data Access Layer services' VOTables against the current specifications for ConeSearch, Simple Image Access Protocol, Simple Spectrum Access Protocol and Simple Line Access Protocol.

Services Validation

A set of tools available at http://voparis-validation.obspm.fr queries the IVOA registries and run the DAL validator over them.

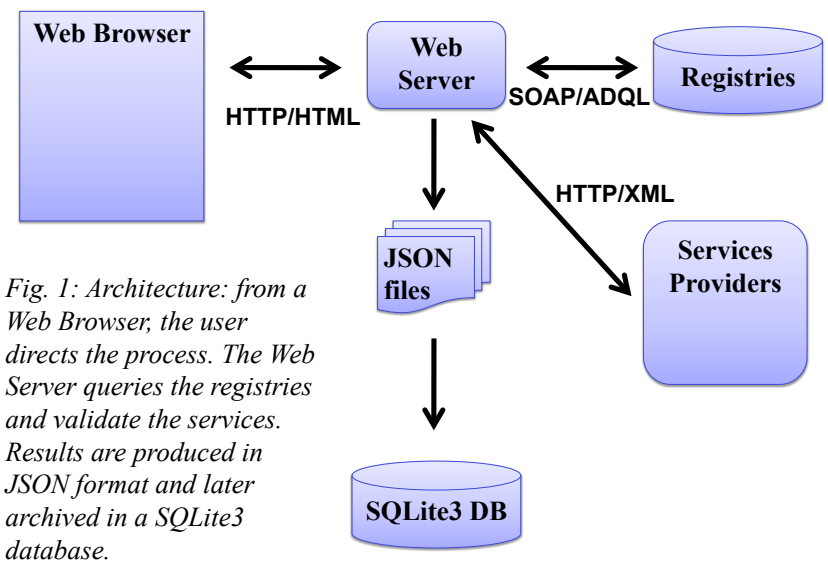
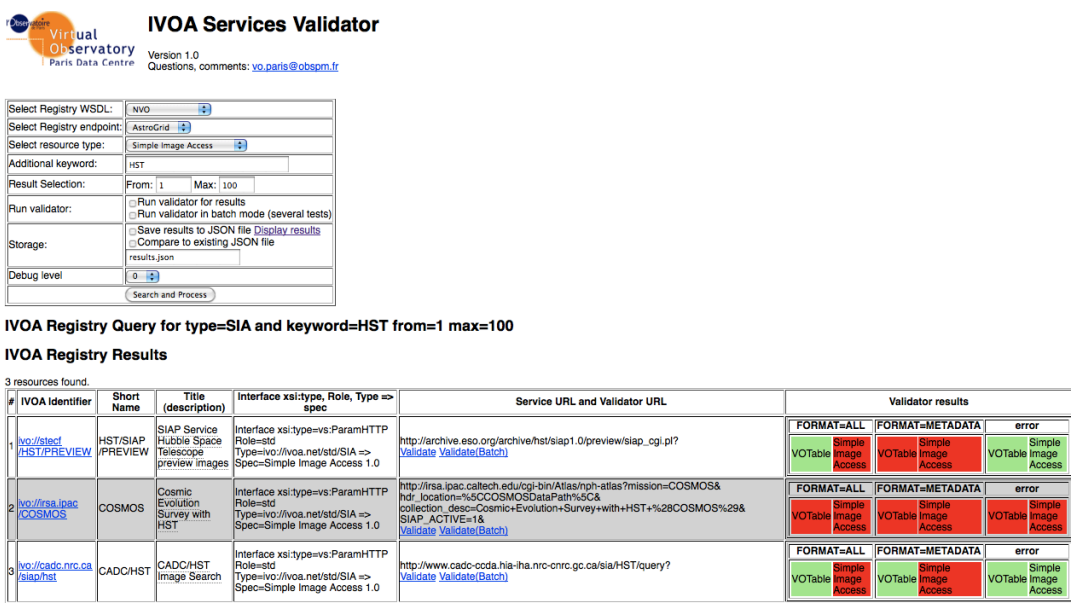


Fig. 1: Architecture: from a Web Browser, the user directs the process. The Web Server queries the registries and validate the services. Results are produced in JSON format and later archived in a SQLite3 database.

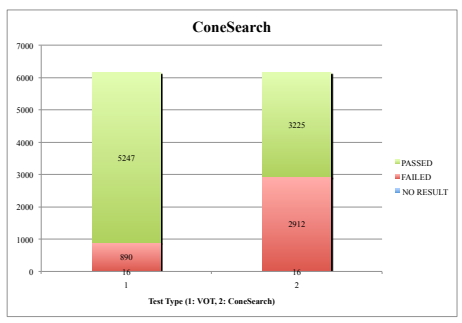
Results of the validation

The results are presented using colored widgets to identify issues with the validation. Moreover, for each service, we display the number of days for which the results have remained the same.



Quantitative Results

The IVOA Services Validator is run every night to follow the progression of the validity of all the DAL services available in the IVOA registries.



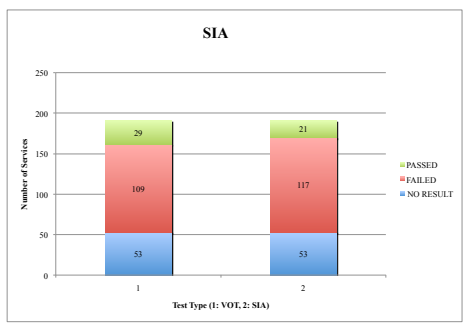


Fig. 2: The results of the validation shows for each protocol, the number of services which are compliant (green), not compliant (red) and not accessible (blue). The leftmost bar shows the compliance for the VOTable and the rightmost bar the compliance for the service specification.

Future Developments

- **An extension in the registry will allow to validate each service against its exact version**
- **We plan to contact providers of non-compliant services to encourage them to modify their services**