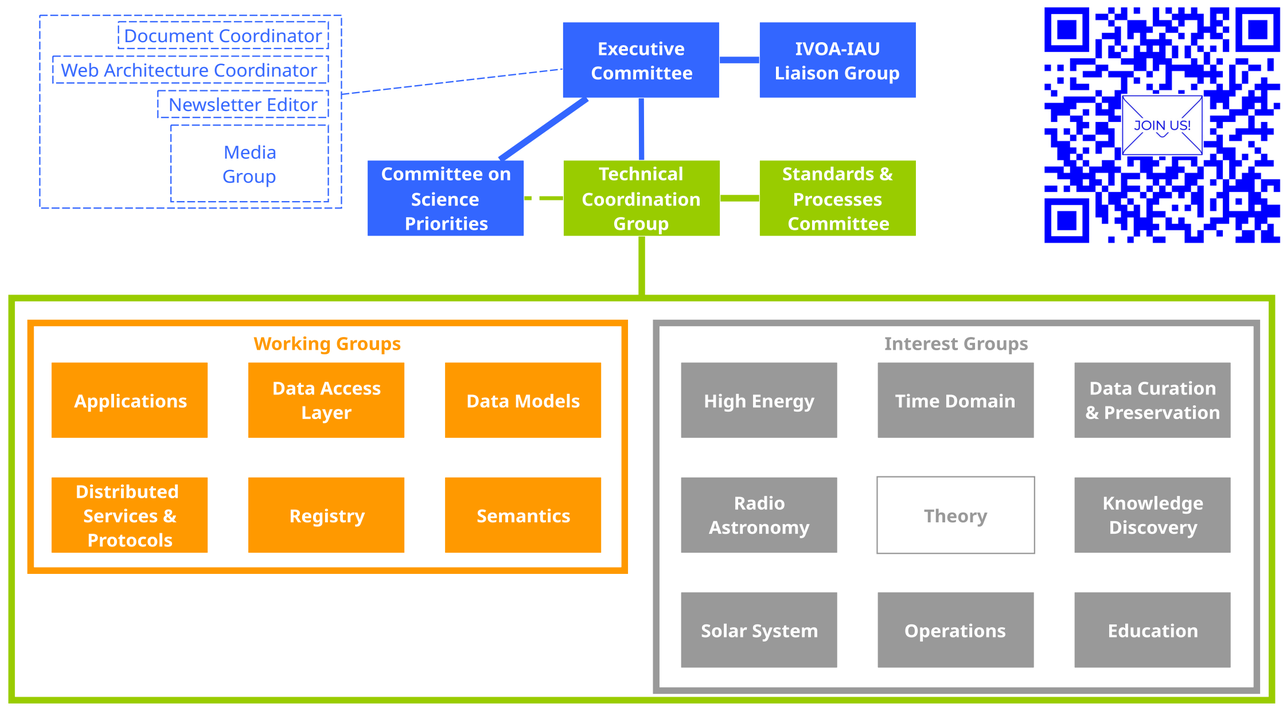
Status of the IVOA Technical Standards and Processes as of 2026

https://www.ivoa.net/

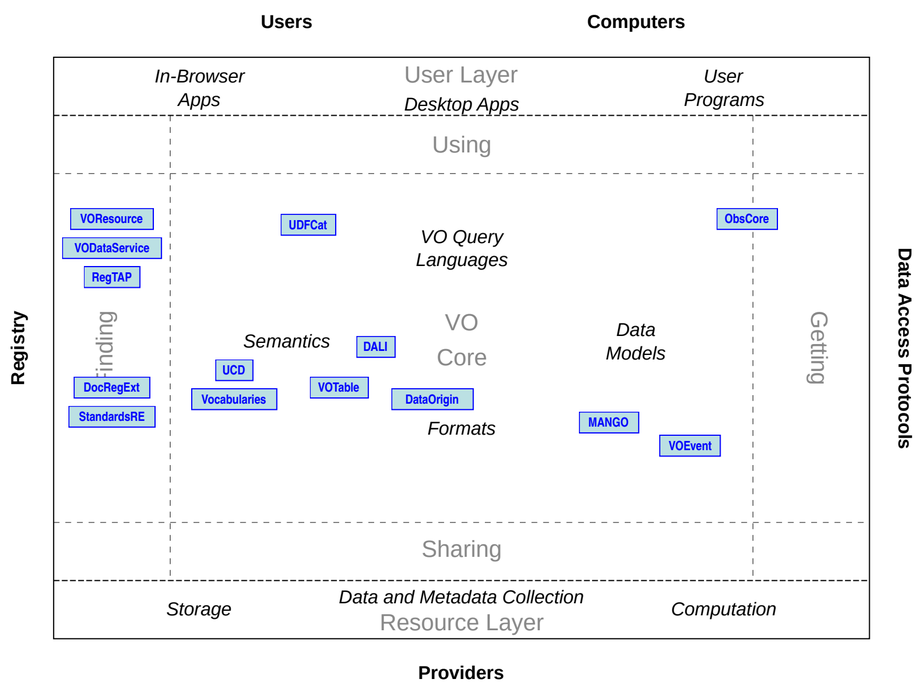
In recent years the Technical Coordination Group (TCG) of the International Virtual Observatory Alliance (IVOA) has continued the activities of developing community open standards targeted at establishing an interoperable scenario in the general astrophysical research domain.
Alongside the continuous work of revising or defining standards, activity has focused on requirements from research sub-domains that are re-emerging or have previously received less attention (such as time-domain astronomy or high-energy astrophysics), on technical challenges arising from new information system technologies (like OpenAPI), and on new data formats and distribution paradigms (including increased use of tessellation and distributed solutions). The TCG has also discussed organisational aspects, possible improvements, and challenges of the IVOA standardisation process itself.
This contribution provides a brief overview of all of the above and tries to identify the major priorities that the TCG might have to face in the oncoming years, balancing the available efforts volunteered by member projects and participating projects against the requirements for new or renewed standards and their uptake.

TCG is one part of the IVOA organisation. As sketched on the right, it has connections to the Executive, the Standards & Processes, and the Science Priorities committees.
Recent organisational discussions focus on:
- updating the processes to establish standards
- improving transitioning to major versions
- adapting newer technologies in producing the standards (like OpenAPI for standard interfaces)
- clarifying the role of Interest Groups w.r.t. Science Priorities

A dedicated tiger team was dedicated to transitioning solutions to better interface specifications, the Standard & Processes committee is working on updating the processes.



https://ivoa.net/members/working-groups/



The most relevant goal of the TCG is to coordinate and produce standards (IVOA Recommendations, https://www.ivoa.net/documents). In the last few years this activity has produced new or updated standards (see on the left for a quick overview of the standards that have been touched), or connected activities, like:
- semantic updates
  - vocabularies and their maintenance
- connection to external technical standards
  - OpenAPI considerations
  - .parquet file integration with VO metadata
- enrichment of VOTable responses with provenance information
- solutions to integrate data collections into bibliographic repositories (ADS)
- extension of the Observational Core model to different wavelength/energy regimes
- inclusion of heliospheric physics and planetary sciences requirements
- reviving effort in time-domain astronomy
- look-out to external community efforts (ASDF, ADPFG)

Still, a lot needs to be pursued, also considering the volunteer-based effort at IVOA:
- tessellation and new data formats
- pursue OpenAPI as a way to make more robust protocol technical description
- discuss and define the scope of Recommendations and Endorsed Notes
- connect to other communities and improve uptake
- standards updates: ConeSearch, SLAP, VOTable, CAOM, ObsTAP, …
- revive simulated data standardisation efforts
- AI connection to VO (follow ai-interop@ivoa.net)

We acknowledge all the TCG members for the work done. The snapshot here presents the current coordinators in role.
https://wiki.ivoa.net/twiki/bin/view/IVOA/IvoaTCG

	Chair	Vice-Chair
TCG	Marco Molinaro	Tom Donaldson
Working Groups		
Applications	Adrian Damian	Brigitta Sipőcz
Data Access Layer	Gregory Mantelet	Joshua Fraustro
Data Model	MathieuServillat	Patrick Dowler
Distributed Services & Protocols	Jesus Salgado	Sara Bertocco
Registry	Gilles Landais	Theresa Dower
Semantics	Baptiste Cecconi	Sebastien Derriere
Interest Groups		
Data Curation & Preservation	Raffaele D'Abrusco	Anne Raugh
Education	Shanshan Li	Priya Hasan
High Energy	Bruno Khelifi	Janet Evans
Knowledge Discovery	Yihan Tao	André Schaaff
Operations	Tamara Civera	Henrik Norman
Radio Astronomy	Mark Kettenis	OPEN
Solar System	Stephane Erard	Mark Taylor
Time Domain	Judith Racusin	Pierre Fernique
IVOA Committees		
Standard and Processes	Markus Demleitner	

Marco Molinaro [INAF & VObs.it] -- Tom Donaldson [MAST/STScI]