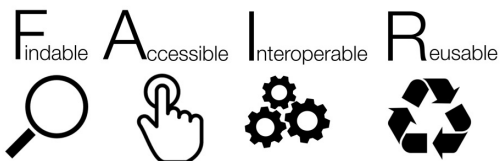


P3T Opening

Janet Evans & P3T Tiger Team

May Interoperability meeting in Sydney, Australia
2024-05-20



P3T Team

- Heard from projects over the last few years resulting in a session at the Bologna meeting
 - Define a more technical specification for IVOA standards
 - Improve compatibility of standards with modern web development tools
 - Make it easier for standards to evolve in the future as web technology evolves
- The Protocol Transitioning Tiger Team (P3T) was formed in Tucson at the Interop meeting in Nov 2023
- The initial aim is to address the question of compatibility of the DAL protocols (and by implication protocols such as UWS) with modern web development tools
 - Ultimately affects all standards that use a RESTful interface but we plan to take it one step at a time



How we got here

- The question we set out to answer is :
 - **How do we adapt the protocol interactions to be compatible with tools such as [OpenAPI](#)**
- The group met remotely 4 times (Jan-April) to discuss ideas, approaches, and prototypes
- The group met for 2 days prior to this Interop (Thu/Fri) to formulate a way forward
- This plenary is to introduce the ideas, describe the plan forward, and discuss



Motivations

- IVOA standards are awkward to use with modern development tools
- Essential missing element in current standards is a machine-readable description of the standard
- Need to think about new projects while considering old projects in terms of not breaking existing implementations

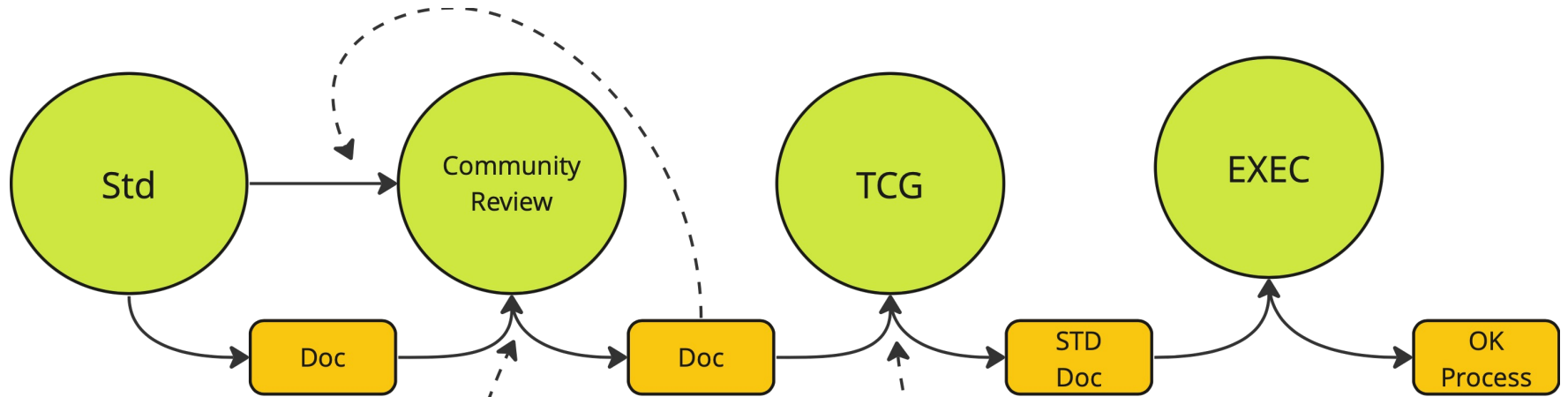


How do we make it happen

- Provide rigorous, unambiguous definitions
- Be compatible with modern developer tools
- Make new services easier to implement
- Make it easier to transition to the next new technology --- for now and later
- Migration of existing services – not required



TCG Process



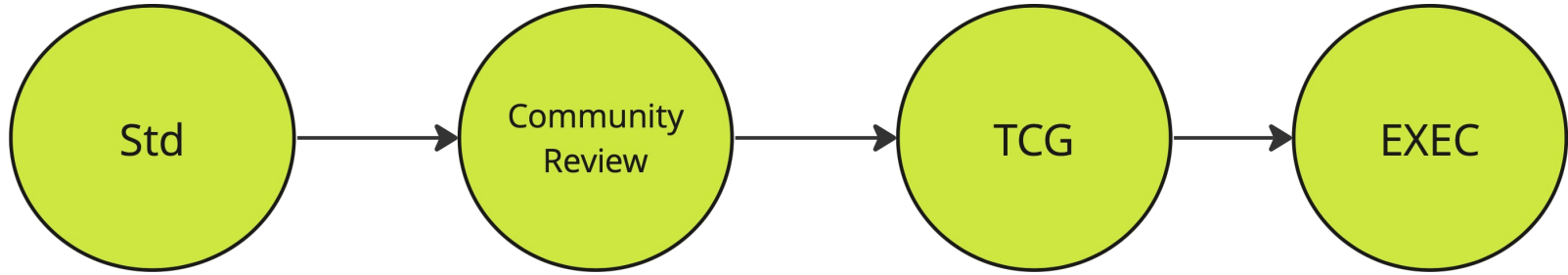
- Academic Paper
 - Text - datamodel
 - defines API (text description)
 - includes behaviour/content
- Reference Implementations
 - 2 of them
- Validator
 - by author or others

- DO
 - others WG implement
 - community implementations
 - WG meeting discussions
- DON'T
 - review implementations
 - review validator

- DO
 - Review Documentation at varying levels
 - Look for clashes with existing standards
- DON'T
 - have a strict review process



TCG Process with OpenAPI



- Standard
 - 1) Text - non normative
 - Intro with Motivation, scope, maybe use cases...
 - 2) Reference Manual - normative part
 - a) Text - behaviour of std (focus endpoints/data)
 - b) OpenAPI Doc
- Reference Implementations
 - 1 from OpenAPI
 - 1 from doc
- Validator

SAME

SAME

SAME



Pros and Cons

- PROS

- Standards are easier to read – provide reference manual with respect to technical details
- Less ambiguous documents for implementation
- Saves time overall
- Reduces interoperability mismatches
- Cheaper to implement correctly
- Expanded community involvement



PROS & CONS cont.

- CONS
 - We acknowledge change is not easy for existing projects --- that is why we have a development/evaluation phase between now and the next Interop
 - Phase 1 – Pilot project
 - Phase 2 – phase for 1st set of recommendations
 - Phase 3 – focus on other standards



Phase 1 – Pilot Project

- Initial proof of concept for tools and processes
 - Focus on TAP (CADC/MAST), UWS (Rubin/MAST), Execution Broker (SKA/SRC)
- Produce WDs
 - Create OpenAPI description of the services
 - Trim current documents to remove the technical language that is covered by OpenAPI
 - Inform what the benefits will be
 - Separate service from encoding layer



Phase 1 cont.

- Introduces common style of error responses across all standards
- Check implications to other services (RegTAP, ObsTAP, EPN-TAP, ObsLocTAP)
- Produce an IVOA note based on the experience

MILESTONE: Present and discuss in 6 months (Fall Interop)



If Successful ... Phase 2 & 3

- Phase 2 – leads to 1st set of RECs
 - TAP, UWS, DALI, Service Descriptor (DataLink), VOSI
 - PRs and RECs go through the normal review process

- Phase 3 – other standards
 - Consider other standards, when they need to be updated
 - DataLink
 - VOSpace
 - SODA



Closing Remark

This is a generational change for the IVOA standards development that we'll take one step at a time!!

... more details in the next presentations

