

Testbed-17 API Experience

Software Projects

Josh Lieberman (OGC) and task participants

API Code Sprint

19 & 26 October 2021

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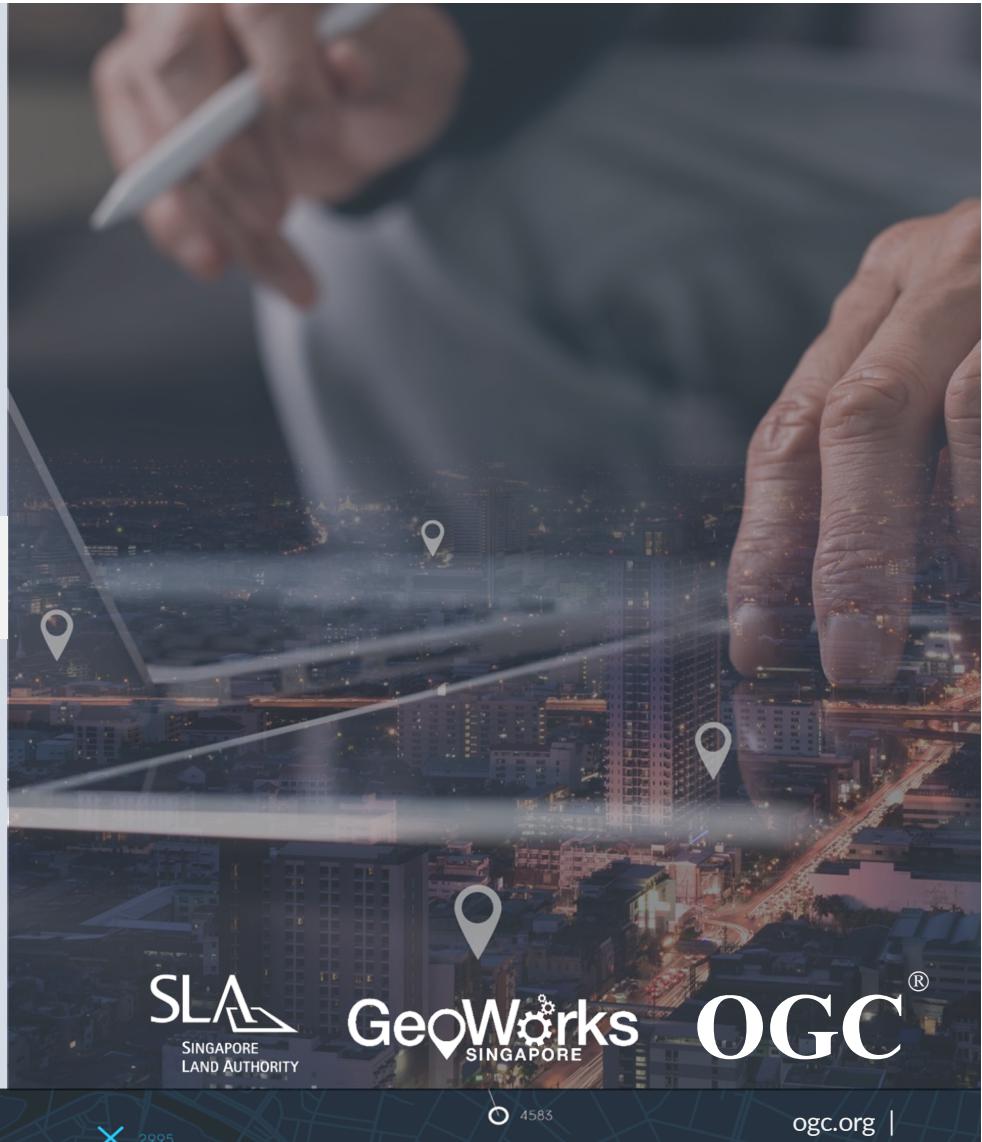
Accessible



Interoperable



Reusable



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T17 API Experience Focus & Goals (CFP)

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- A client software library that simplifies interaction with OGC API services (Features, EDR);
- A service instance with sample code for Web API support, control unit that mediates between the front-end API and the backend data stores, and support for various cloud-native data backends
- Installation and deployment scripts that illustrate the deployment of both the service instance as well as the data backends in various cloud environments
- Continuous Integration (CI) and Continuous Delivery/Deployment (CD) model will be developed ... and refined as necessary. All software and scripts shall be kept in a deployable state continuously.
- The goal of this task is to provide a robust and easy to understand starting point for Web developers to explore standards-based APIs; all software and installation scripts shall be delivered under a permissive software license (e.g. GNU All-permissive License or MIT License).



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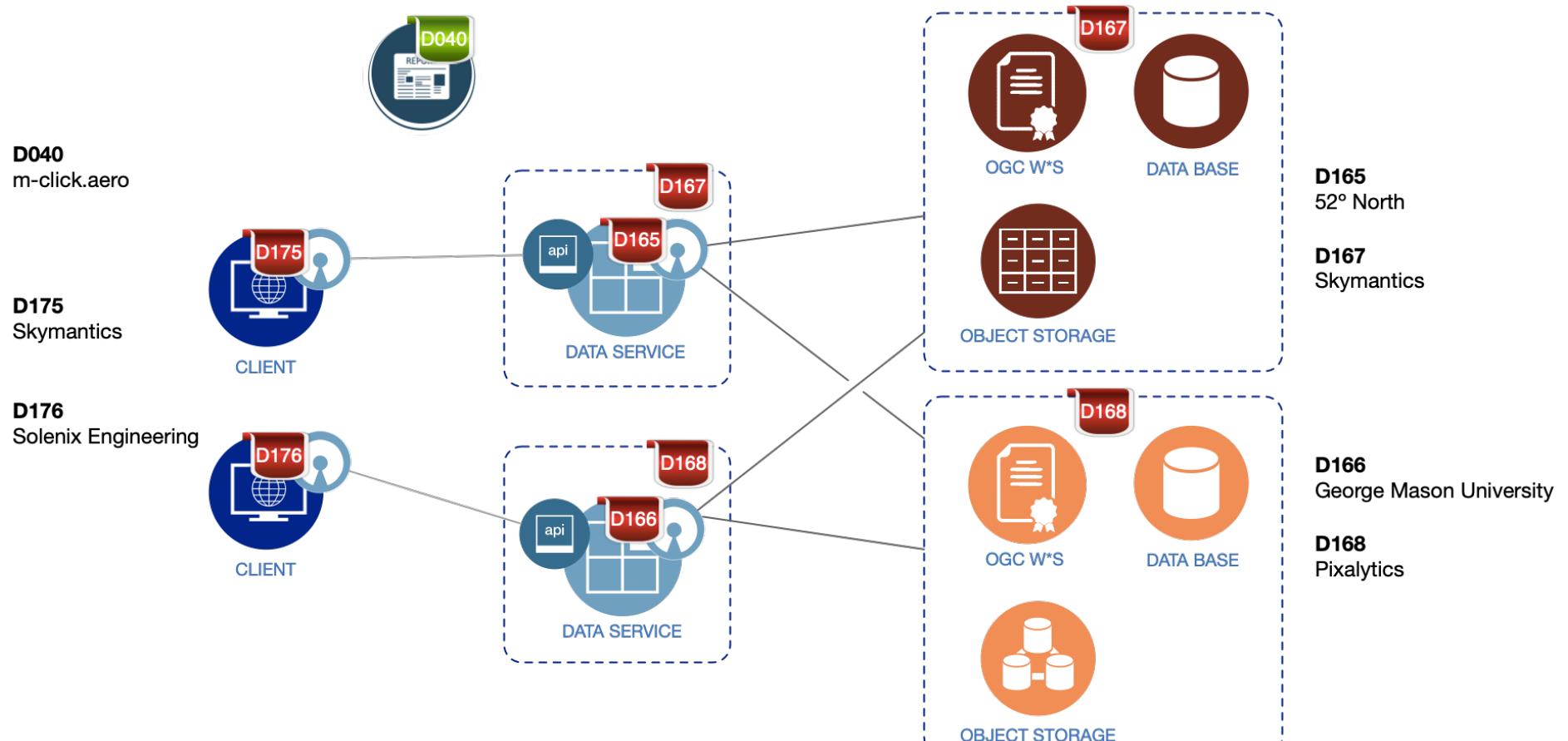
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API Experience Component Wiring

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Data Backend Projects

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OGC

- D168: Pixalytics / Samantha Lavender
 - COG-STAC in the cloud
 - Github: <https://github.com/opengeospatial/T17-API-D168>
- D167: Skymantics / Ignacio Correas
 - PostGIS in the cloud (AWS, CloudSigma, CloudFerro)
 - AWS S3 GeoJSON
 - Tiles generation / one-click service with OSM and Docker
 - Github (in development): <https://github.com/opengeospatial/T17-API-D167>



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OGC API Server Projects

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- D165 52N / Arne Vogt
 - Python API Server (Features, EDR)
 - Github: <https://github.com/opengeospatial/T17-API-D165>
- D166 George Mason University (Eugene Yu)
 - Javascript API Server (Feature, EDR)
 - Github: <https://github.com/opengeospatial/T17-API-D166>



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OGC API Client Projects

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- D175 Skymantics / Ignacio Correas
 - Python API Client (Features, Routing)
 - Github: [**T17-API-D175-Features**](#)
 - [T17-API-D175-Features autogenerated](#)
 - [T17-API-D175-Routes](#)
 - [T17-API-D175-EDR](#)
- D176 Solenix / Alexander Lais, Karri Ojala
 - Typescript API Client (Features, EDR) extending [WebWorldwind](#)
 - Github: [https://github.com/opengeospatial/T17-API-D176-dev](#) and [https://github.com/opengeospatial/T17-API-D176](#)



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Using Code Generators for OGC OpenAPI Spec

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- OpenAPI Generator¹, generates server and client stubs
 - Different languages and frameworks / libraries supported
 - Other generators are available but this was the most complete
- One OpenAPI Spec at a time
 - Generates call stubs, response holder classes & structs
 - Namespaced per spec
- Generally good experience with the results
 - Less ‘boilerplate’ code to write
 - Adaptations to the generated code via inheritance / override instead of changing generated code is possible
 - But: each OGC spec file creates new stub code with its own namespace.

[1] <http://openapi-generator.tech>

Challenges

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- Deploy and configure one or more components of a distributed application
- Add additional capabilities to one or more components
- Test components against new datatypes and datasets
- Evaluate “ease of use” for executing a development project from one or more of these “starter projects” +/- automated code generation from Open API.
- Contribute to the refinement and maturation of one or more of these projects.



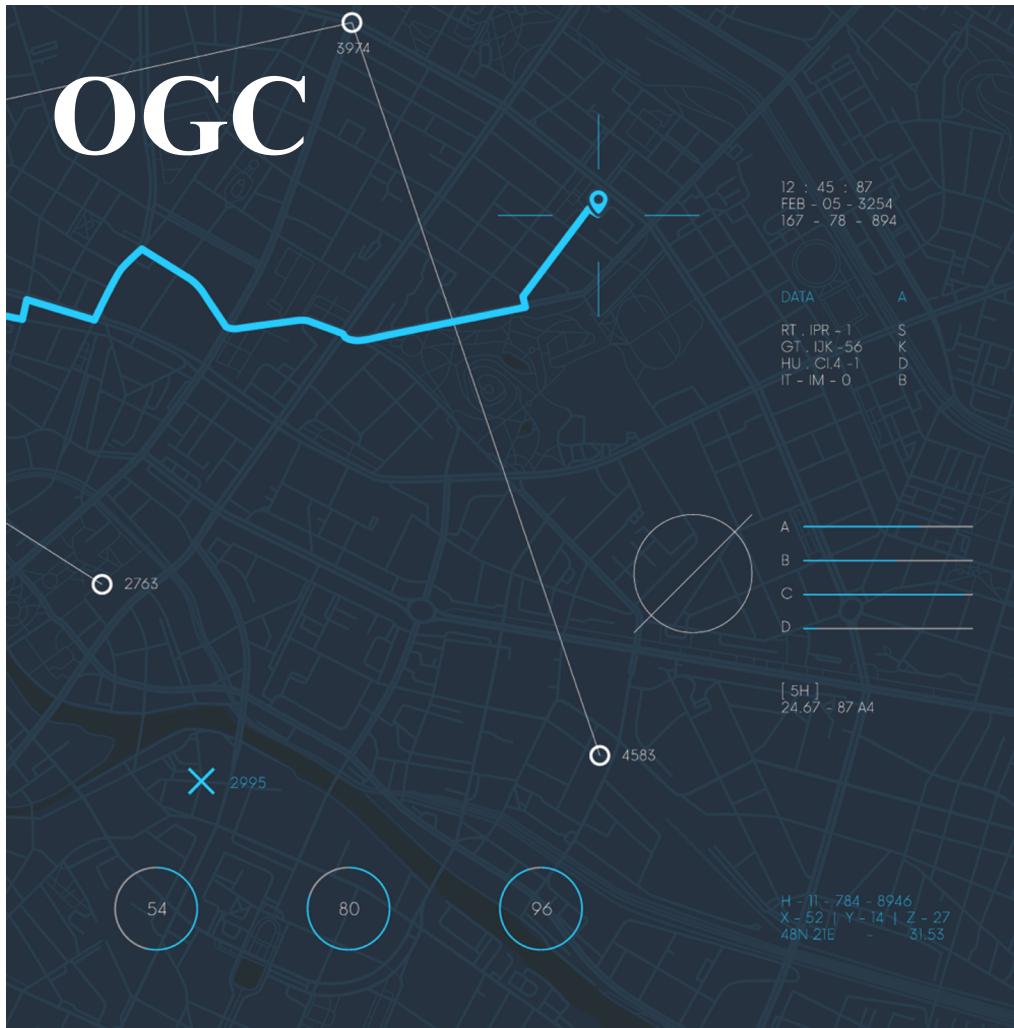
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Thank You!

Community

- 500+ International Members
- 110+ Member Meetings
- 60+ Alliance and Liaison partners
- 50+ Standards Working Groups
- 45+ Domain Working Groups
- 25+ Years of Not for Profit Work
- 10+ Regional and Country Forums

Innovation



- 120+ Innovation Initiatives
- 380+ Technical reports
- Quarterly Tech Trends monitoring

Standards

- 65+ Adopted Standards
- 300+ products with 1000+ certified implementations
- 1,700,000+ Operational Data Sets Using OGC Standards

Contact info@ogc.org to schedule a meeting for an in-depth discussion with OGC staff and join our community today!



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