

ESAP: The ESCAPE ESFRI Science Analysis Platform



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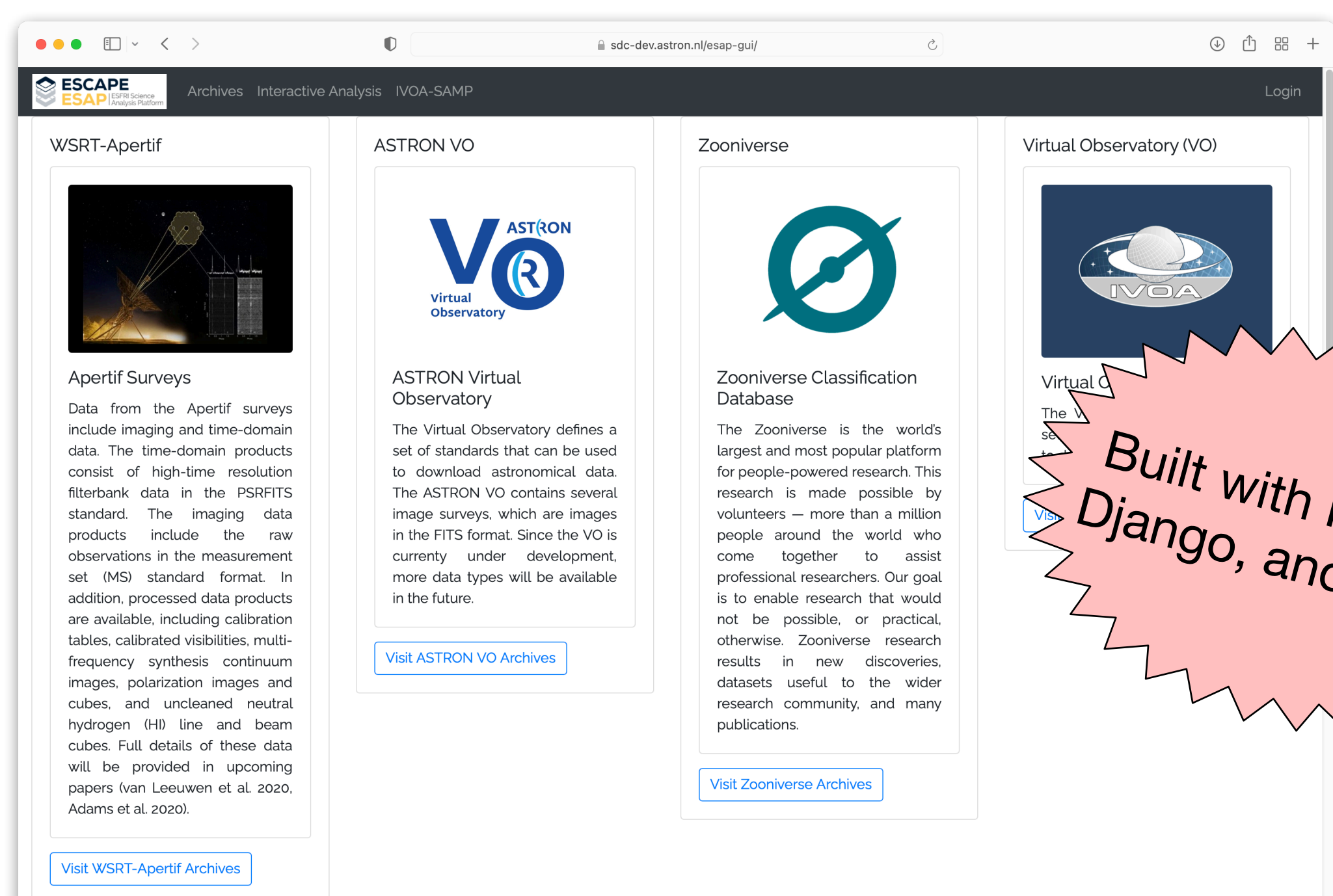
ESCAPE & ESAP

The ESCAPE project brings together the astronomy, astroparticle, and particle physics communities to address fundamental challenges in data-driven research, inspired by the goals and needs of major European research infrastructures, or ESFRIs.

ESCAPE aims to produce versatile solutions to support the implementation of the European Open Science Cloud by fostering a multi-disciplinary environment, including open data management according to FAIR principles. Our goal is to enable interoperability between facilities, encourage cross-fertilization, and develop joint multiwavelength and multimessenger data processing and analysis capabilities.

In support of this goal, ESCAPE is developing a range of services, including data infrastructure, a software repository, virtual observatory integration, and a citizen science programme.

This poster describes ESAP, the ESFRI Science Analysis Platform, being developed by the ESCAPE Project's Work Package 5.



Built with Python, Django, and React

Try out our test system

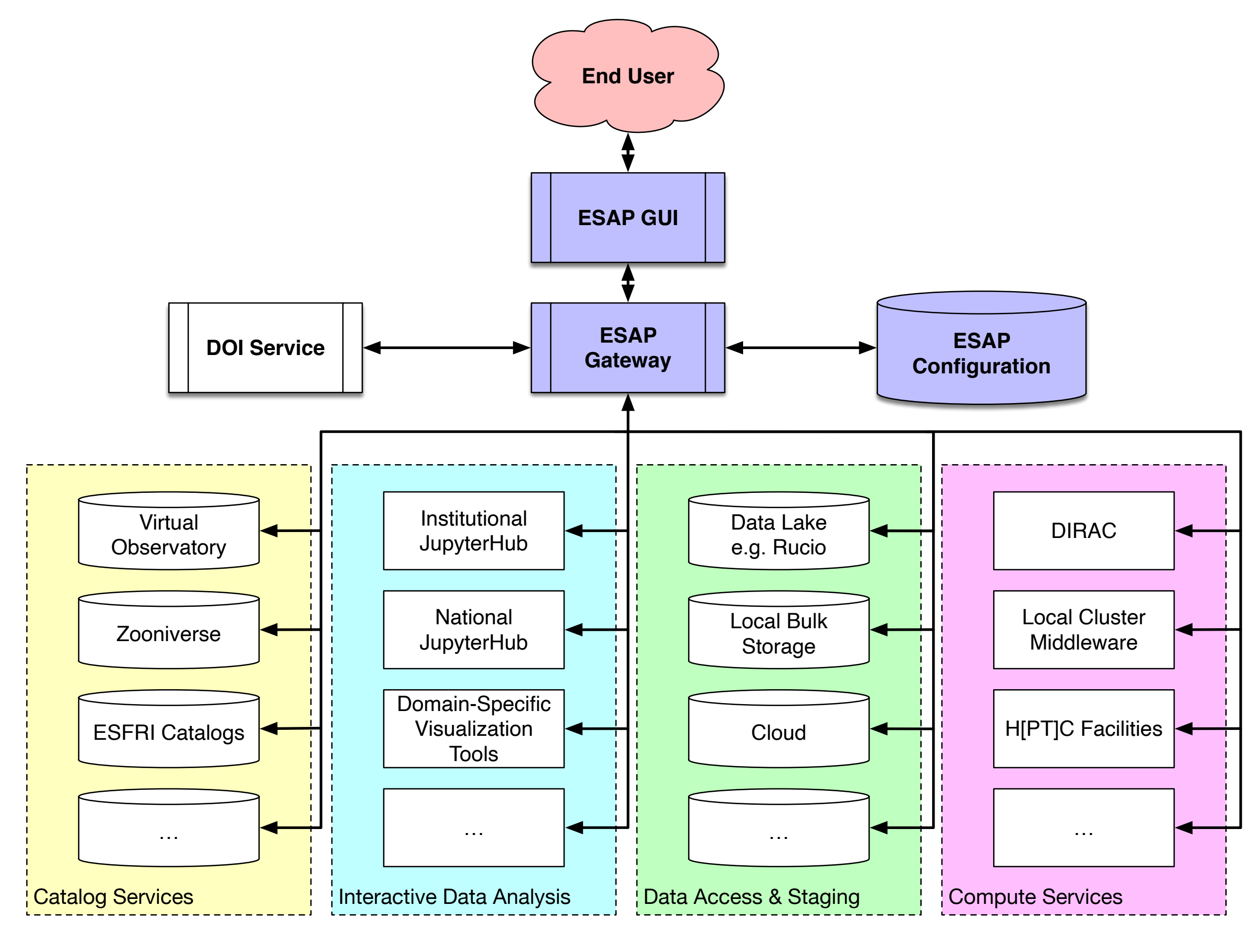


The ESAP Mission

ESAP aims to help users engage with ESCAPE and other services by providing:

- Data discovery and retrieval from a range of archives and data repositories.
- Exploration and discovery of relevant tools in the ESCAPE software repository.
- Access to a range of compute and analysis services provided by project partners and other facilities.
- Orchestration of data, services, and software to help users create and access research environments that meet their needs.

ESAP is not a single instance of a science platform, but rather a “toolkit” that research infrastructures, institutions, projects, and others can use to create and manage analysis environments tailored to their particular needs.

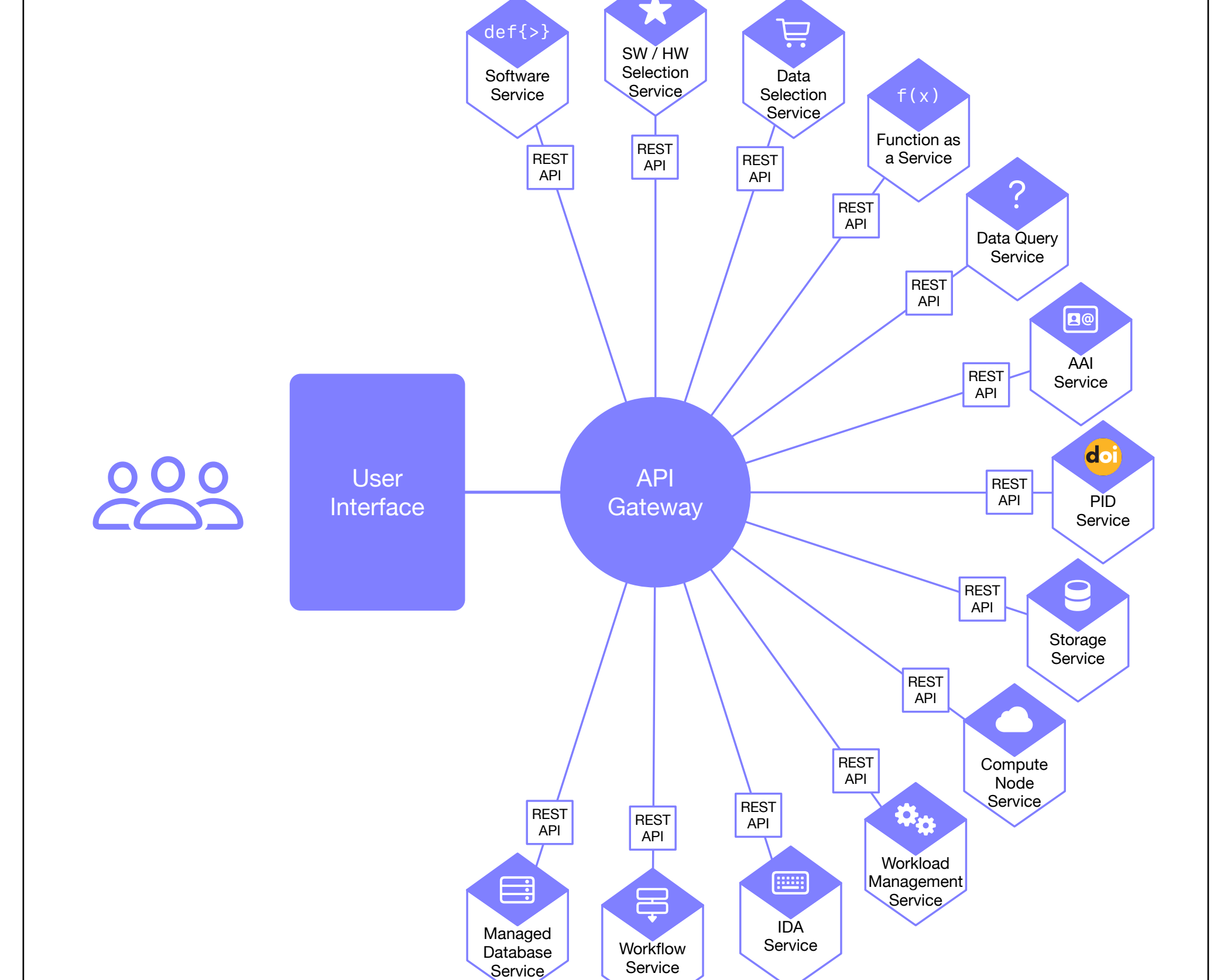


Current Capabilities

- Query multiple archives with an adaptable interface
- Load software from the ESCAPE repository
- Integration with ESCAPE Identity & Access Management
- Data orchestration across multiple services
- Interactive Data Analysis through BinderHub services
- Upload data using IVOA SAMP

Architecture

ESAP consists of an API Gateway, which brokers requests across multiple independent, externally-provided services, and an attractive, flexible, web-based User Interface.



New capabilities are easily added by writing “plug-in” modules which integrate new services with the API Gateway. A variety of plugins are provided with ESAP; we hope the wider community will add many more.

Downloads & Further Information

Information about the ESCAPE Project and details of the capabilities it provides are available from:

- <http://www.projectescape.eu/>
- ESAP is available under the terms of the Apache license, version 2.0, from:
 - <https://git.astron.nl/astron-sdc/esap-api-gateway>
 - <https://git.astron.nl/astron-sdc/esap-gui>

A test system is available at:

- <https://sdc-dev.astron.nl/esap-gui>

ESAP is currently under heavy development: stability and uptime are not guaranteed, but your feedback is always welcome.