



The set of EXTRACT TASKA tools, developed by ObsParis, are making use of the EXTRACT infrastructure for optimising and orchestrating the data processing of the NenuFAR instrument, an SKA Pathfinder. It implements: (i) real time detection of scientific events in the real time, high resolution raw data flow, (ii) a compute continuum workflow orchestrator for radio astronomy; and (iii) an advanced ML-based radio astronomy imager for dynamic radio sources.

KEY BENEFITS FOR COMPUTE CONTINUUM PROJECTS

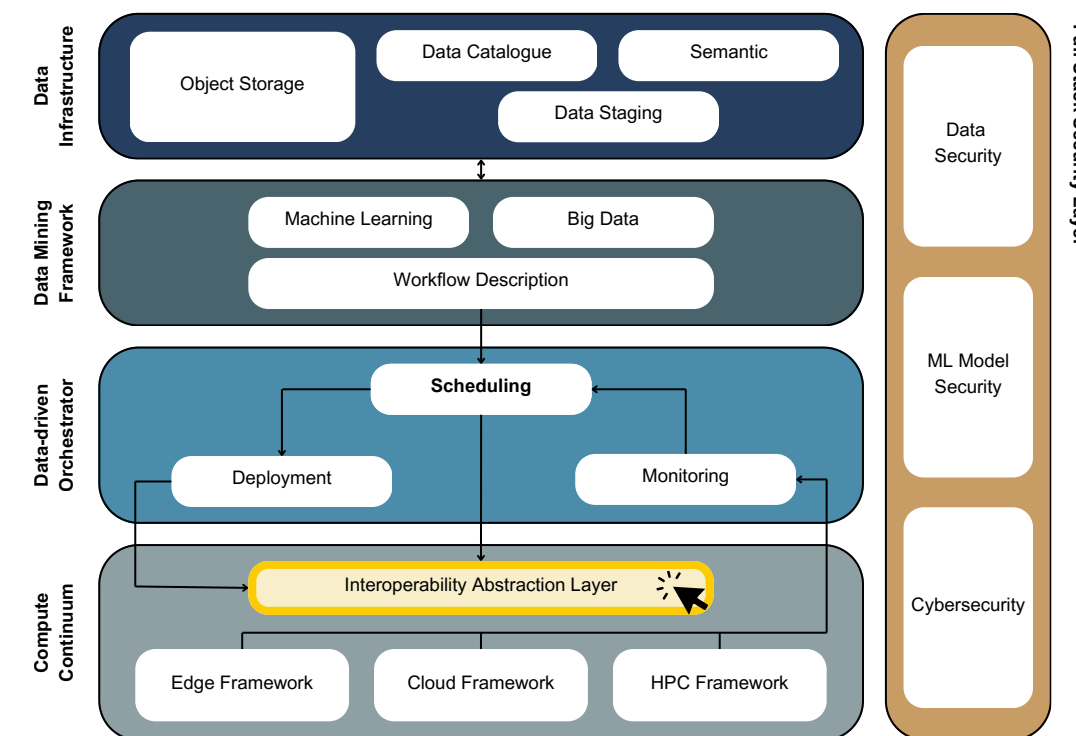
This set of tools paves the instrument data life cycle, from the raw data flow with real processing on edge resources, to post-processing orchestration on Cloud and HPC resources. Such novel architecture is a key asset for the preparation of the upcoming SKA Region Center network (SRCnet), a world-wide digital infrastructure for the distributed storage and processing of the SKA Observatory data products.

FOR RESEARCHERS AND INDUSTRIAL TEAMS:

- Save time and resources on data inspection and evaluation on the one hand, and on data logistics on the other hand.
- Implement new algorithms and update existing ones for the real time data analysis.
- Advanced interface to build workflows and control its results.
- Improve the data quality and traceability, with the embedded provenance metadata.

USE AND IMPACT BEYOND EXTRACT

The TASKA tools have been presented to the French SRCnet group with very interesting feedback. The tools developed with TASKA will be part of the French contribution to the SRCnet, which will serve all SKA pathfinder data on a mixed Cloud and HPC distributed infrastructure. During TASKA, the ObsParis team tested the workflow orchestrator on various platforms, including an EGI provided Kubernetes cluster and the EOSC-EU Node Cloud Container Platform. Furthermore, thanks to the developments in TASKA, the technical teams at ObsParis raise their expertise in Cloud storage and processing, with a direct impact on all projects at ObsParis.



<https://gitlab.bsc.es/extract/extract-use-cases/taska>

