Enabling Remote HDF5 Browsing and Visualization on Facility Portals

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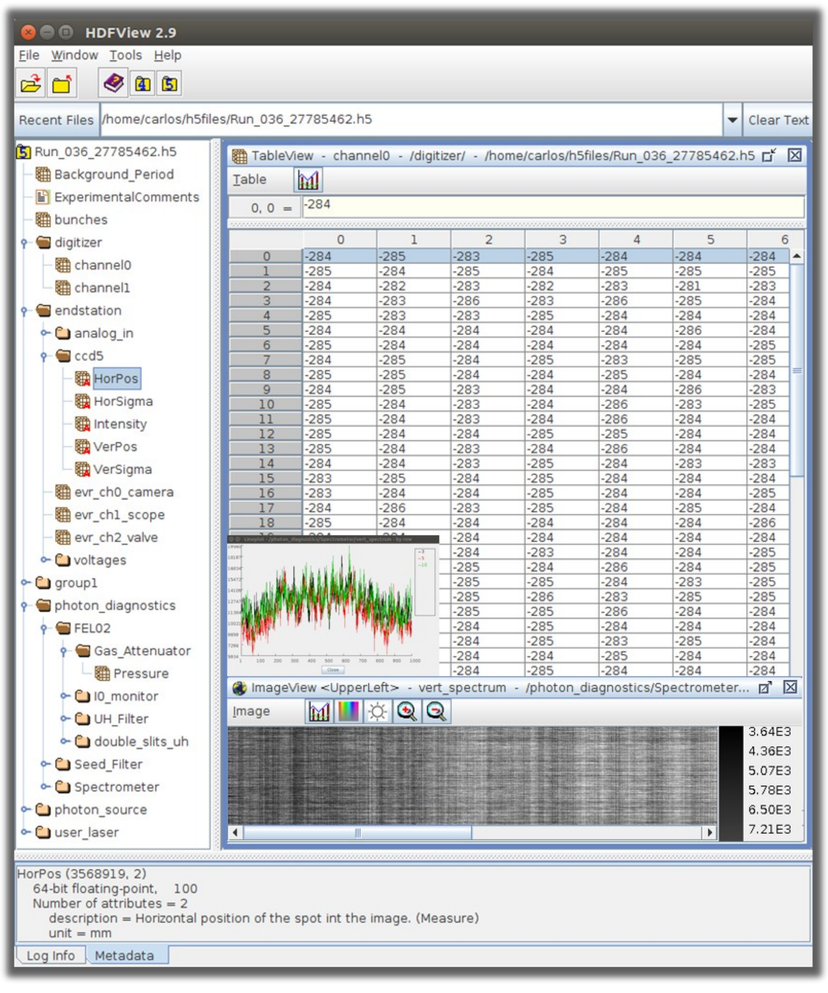
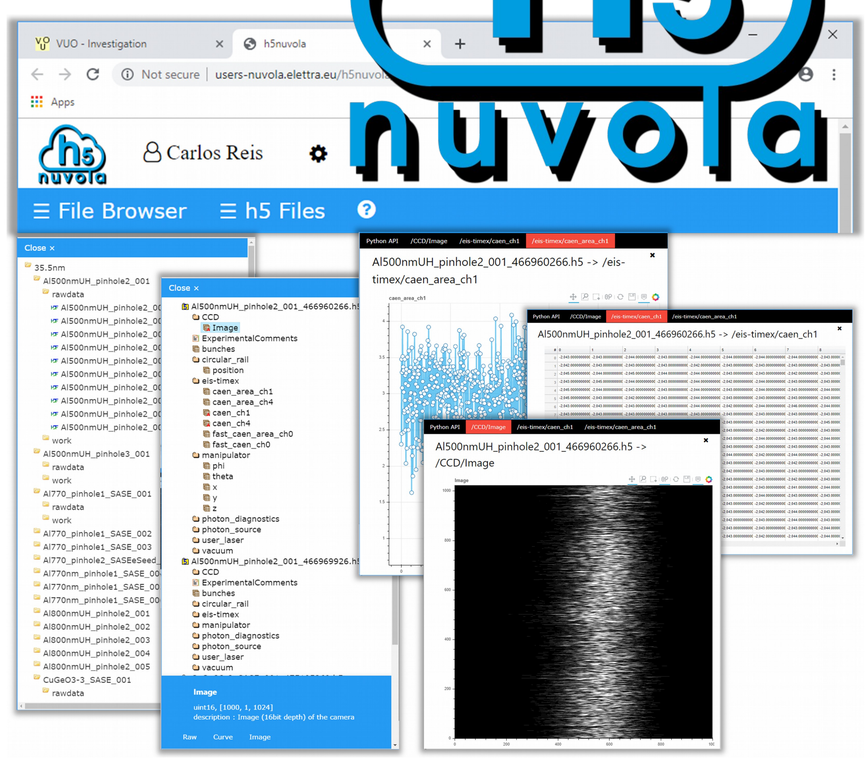
We present the latest developments of **h5nuvola** [1] and its **integration** in the Elettra **Virtual Unified Office** (VUO) [2]. The system provides web-based data **browsing** and **visualization** of **HDF5** files in a similar manner to HDFView through the facility's portal. This allows **remote access** to the user experimental data. H5nuvola extends the standard functionality of the HDFView and aims at providing additional services. Other than the browsing of files and dataset visualization on remote storage (i.e. cloud, AWS, EOSC), h5nuvola provides services for **selective exporting of data** locally in a flexible way (including Jupyter Notebook environment). It allows for multiple formats but also for picking only specific datasets from a single file and even only **parts of those datasets** (NumPy slicing). It has a modular architecture that includes an **API** and facilitates **data** and **metadata** exploration through **REST** services. The poster presents the integration of the system to the Elettra's VUO as a case study for the deployment of the system in other facilities too. This integration is challenging but enables the remote access of real datasets for the end-users.

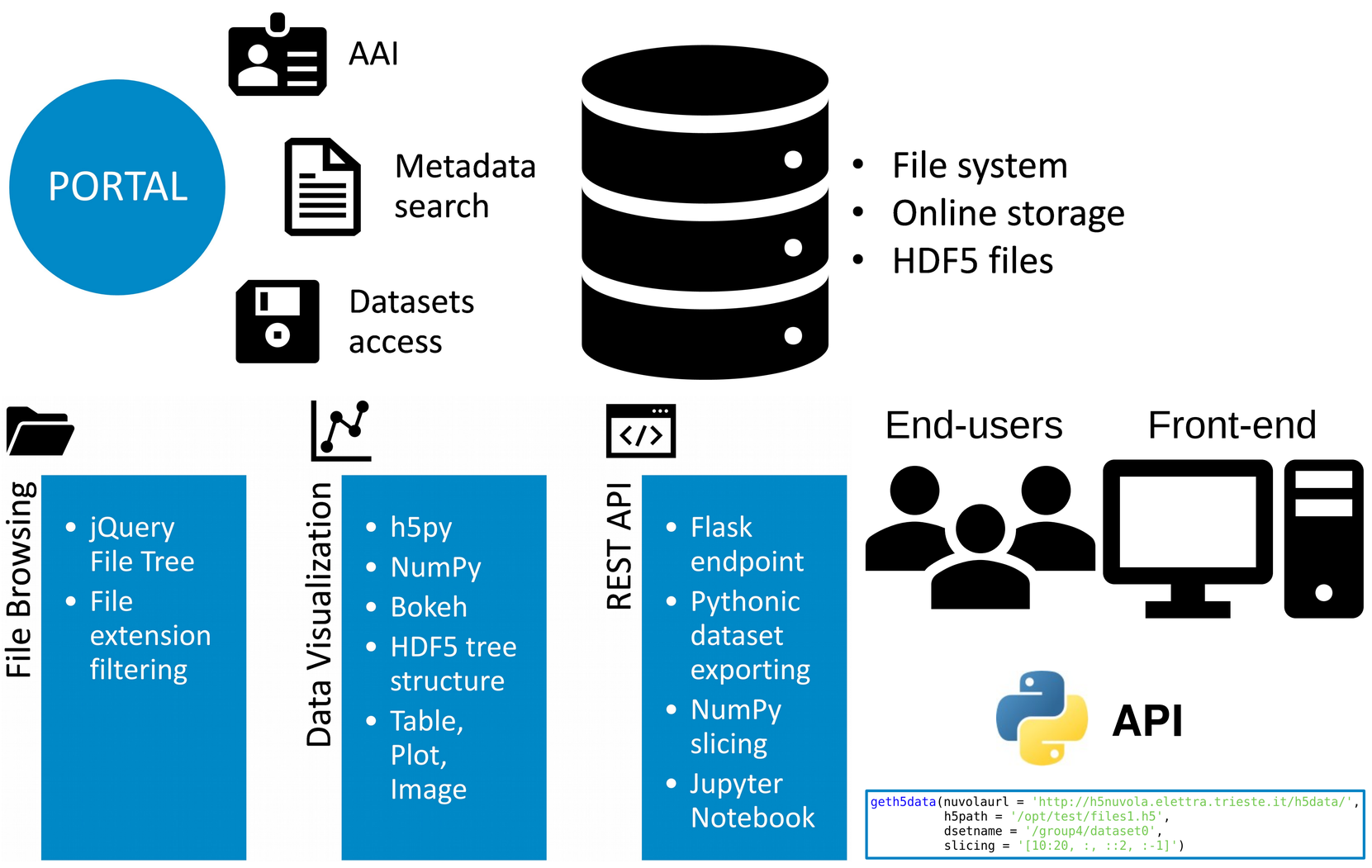
HDFView... *in the cloud*



- HDF Java browser
- Tree structure view
- Files, groups and datasets editing
- Attributes / metadata manipulation
- Table, chart and image visualizers



Integration to *facility portal*



[1] https://github.com/ElettraSciComp/h5nuvola.
[2] F. Billè et al., "Data Lifecycle in Large Experimental Physics Facilities: The Approach of the Synchrotron and the Free Electron Laser FERMI", in Proc. ICALEPCS'15), doi: 10.18429/JACoW-ICALEPCS2015-WEPGF037.

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