



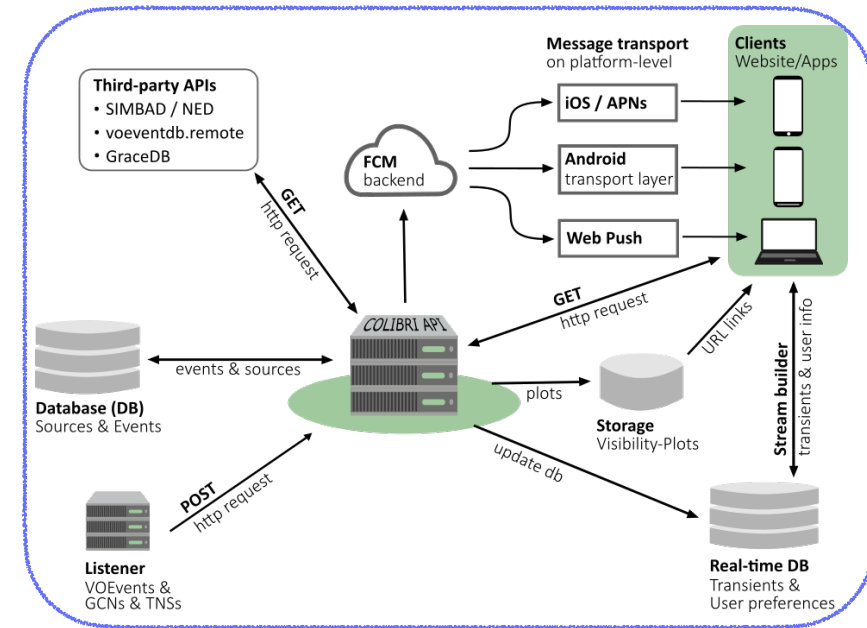
Astro-COLIBRI

The coincidence library for real-time inquiry for multi-messenger astrophysics

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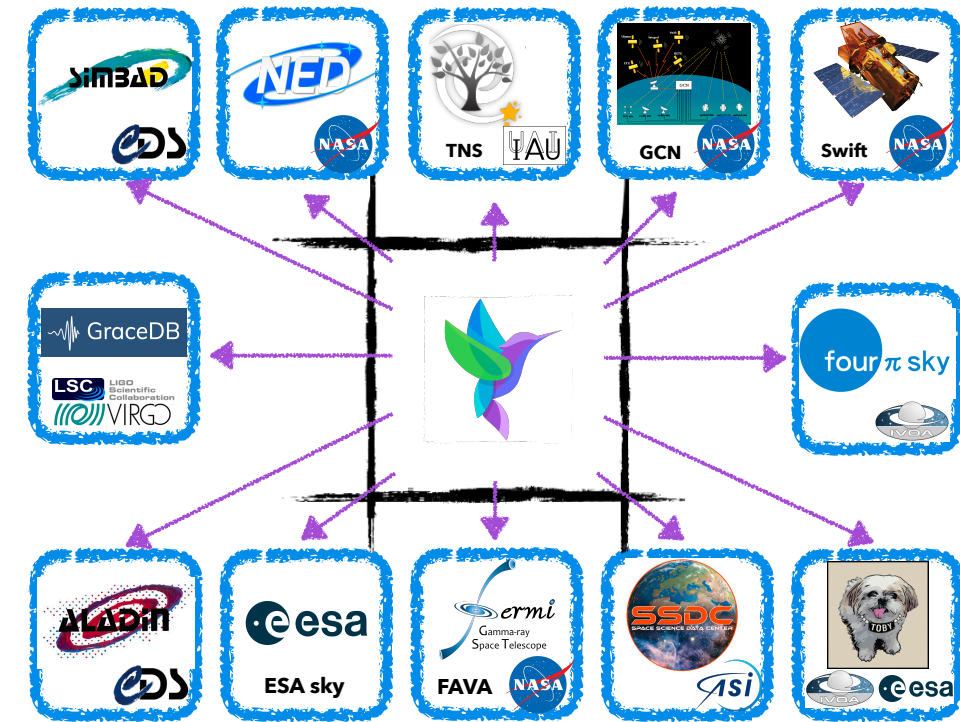
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To cope with the increasing number and complexity of MWL and multi-messenger transients/ToOs/alerts we present a novel platform that allows to quickly acquire an overview over transients events and stable sources in the relevant phase space. Astro-COLIBRI automatically collects and summarizes information from a large variety of real-time alert streams. A reliant and performant architecture around a central and open API provides information in human and machine-readable formats via interactive graphical representations on the web and smartphone applications.

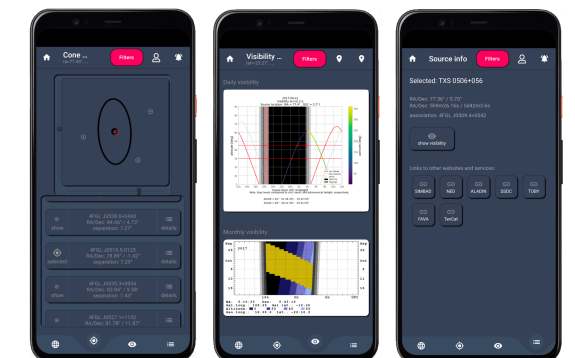
Overview of transient phenomena and their MWL and multi-messenger context



Extensive information about each event and direct access to external services/databases/APIs/etc.

Visibility assessment for ground based observatories

Real-time notifications and full information display via smartphone apps on both Android and iOS. Same codebase as web-based client via Flutter. Currently under review by the Google Play Store and the iOS AppStore



Astro-COLIBRI's architecture comprises a RESTful API, a real-time database, a cloud-based alert system, and multi-platform clients for information display. The structure of Astro-COLIBRI is optimized for performance and reliability and exploits concepts such as multi-index database queries, distributed cloud computing, a global content delivery network (CDN), and direct, real-time data streams from the database to the clients.

The Astro-COLIBRI API provides several open, general purpose endpoints that can be used to integrate the collected information in existing systems like real-time data analyses pipelines, or observatory control rooms. [Documentation of the API endpoints](#) is available.

Tutorials and introductory videos are being made available on YouTube.

