

Overview of the GraceDB Technical Document

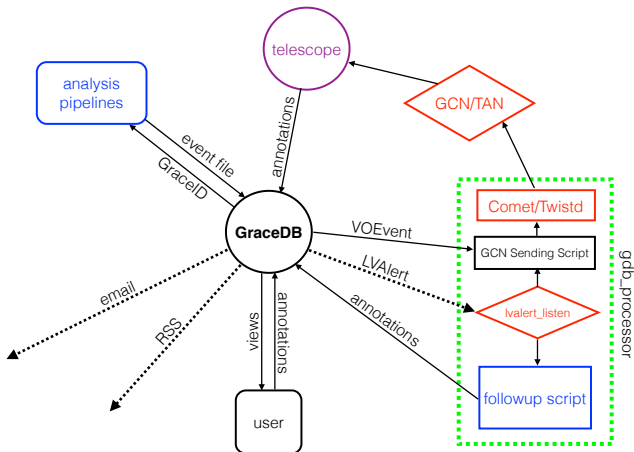
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Summary Figure



The merging of related events

- For any given “real-world” event, there should only be one GraceDB event.
- The Super Event (SE) must be one-to-many with Events and should have a physically informative set of attributes.
- The SE’s member event list must be editable, and edits must trigger LVAlerts. The SE model should include flags for human checks of the member list and the SE attributes.

The EMBB

- The EMBB should provide a mechanism for astronomers to report followup observations in a structured, searchable manner. This information should be accessible through the web interface as well as through the REST API.
- The EMBB should provide a mechanism for astronomers to annotate events with unstructured information (e.g., freely composed text and images). These annotations should be displayed in the EMBB web area.
- The EMBB should incorporate and/or link to information about an event from other content sources (such as GCN/TAN).

Presentation and searching of skymaps

- GraceDB events must be searchable by sky location.
- Individual GraceDB events and groups of events should be viewable on a map of the sky.

Federated auth

- GraceDB must support federated identities for authentication.
- GraceDB must be able to protect individual events with group-based authorizations. Permissions to create, view, and annotate events should be separately specifiable.

Audience-specific rendering templates

- The presentation of information in GraceDB should be tailored to the appropriate audience. Thus, multiple audience-specific rendering templates will be required.

Service redundancy

- In the event that the GraceDB server becomes unresponsive, another instance should automatically take its place (“hot failover”).
- The load balancing appliance should support node selection by HTTP verb so that reading and writing operations are directed to the correct node.
- The GraceDB database must be replicated across nodes, and a common filesystem for event files must be available to all nodes.
- User sessions should be replicated across all nodes.