Integrating DIRAC with a PostgreSQL bookkeeping database via SQLAlchemy

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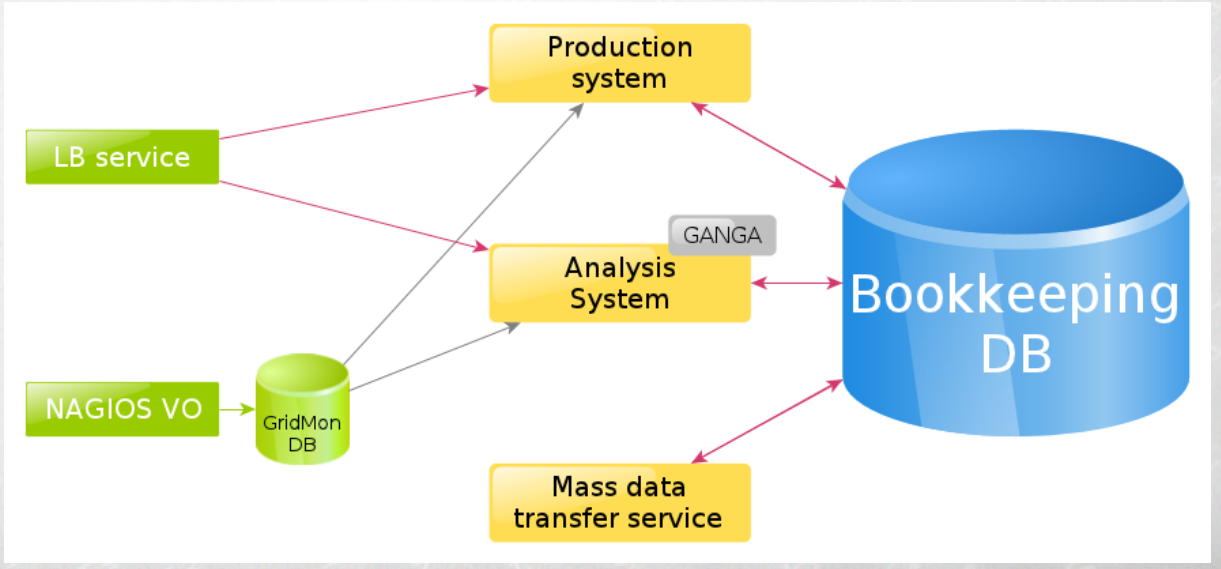
Agenda

- SBK5 – Bookkeeping database for SuperB
- Accessing PostgreSQL database from Python code
- Integrating with DIRAC

Bookkeeping database

- Cental database in computing model
- Accessed by many parts of the system (read and write)



Accessing database

- Considered alternatives:
  - Psycopg
  - **SQLAlchemy**
- Why SQLAlchemy?
  - Powerful object-relational mapping
  - Elegant, easy to write and read code
  - Works with wide variety of database backends

Putting bricks together

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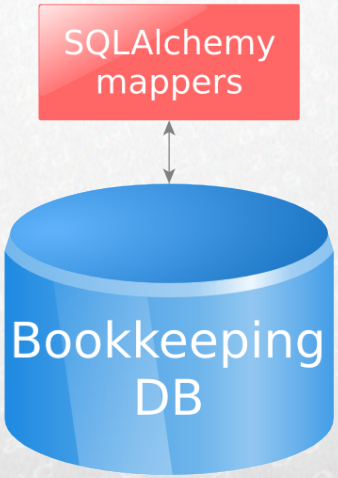
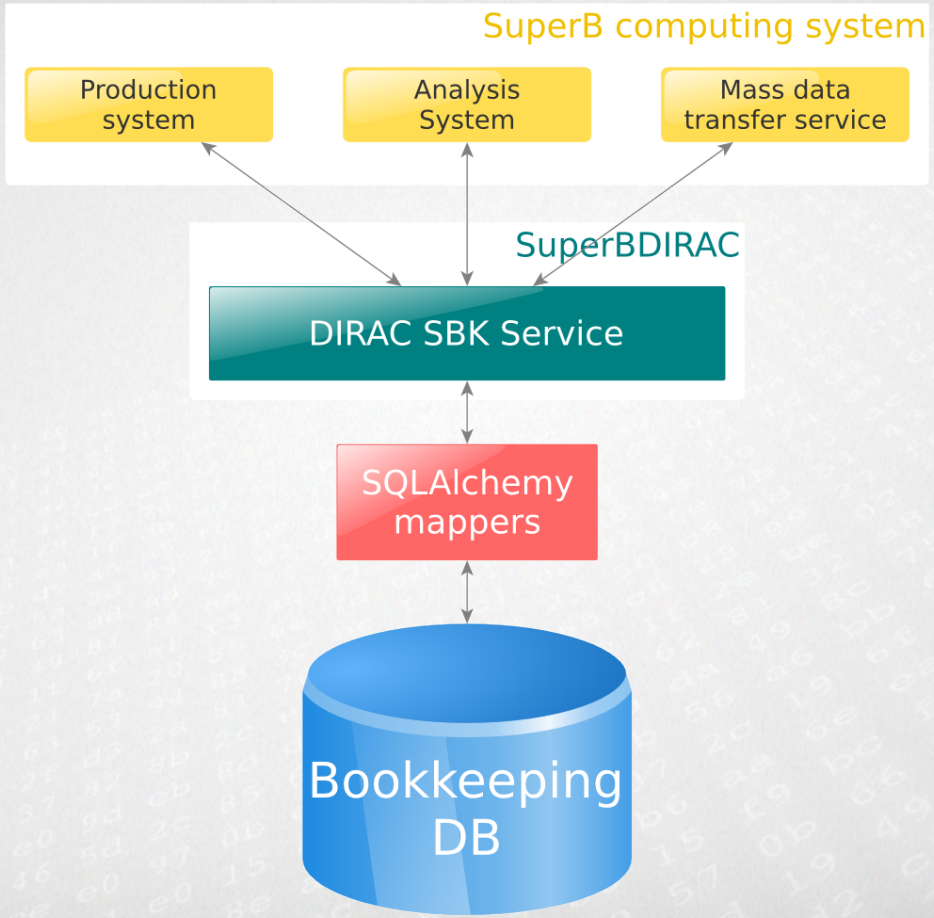


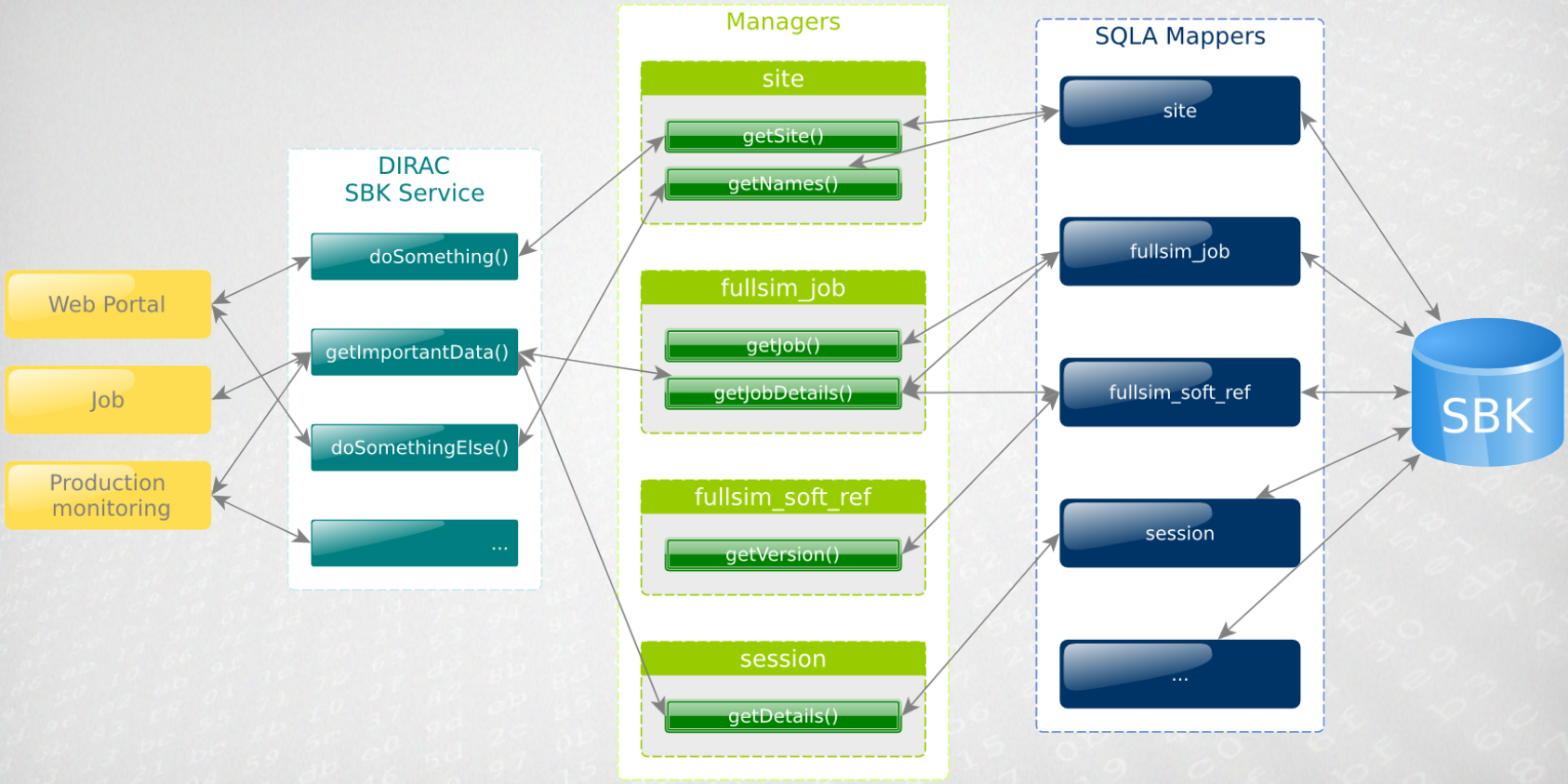
Putting bricks together



DIRAC SBK Service

- Parts of the computing system need to access bookkeeping database contents
- DIRAC Service is a way to export functionalities
  - Set of tools to manipulate on SBK
  - All functions in one place

DIRAC SBK Service



State of art

- Connecting to database – done
- SQLAlchemy mapping – done
- Proof-of-concept DIRAC Service – in progress and testing
- Performance tests – to be done
- Full production system – to be done ;)

Summary

- Part of SuperB march towards DIRAC
- Promising solution
  - Database backend independent
  - Object oriented approach
  - Elastic, allowing DB-level changes without influencing all of the system
- Results to be visible very soon