Federation management solutions - Latest achievements and technical roadmaps

EGI Accounting Portal

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EGI Accounting Portal

- New architecture based on (Docker) containers.
- Different updates of the code.

- Implementation of new features:
  - New benchmark HEPScore23
  - Storage Accounting
  - GPU Accounting

EGI Accounting Portal – New Architecture

The new architecture uses docker containers as isolated environments, allowing the app to run independently of the host machine's operating system.

The portal is built using various Docker containers with updated versions:

- Django (4.1)
- API
- MariaDB (10.5) to replace MySQL 5.7
- Apache

EGI Accounting Portal – New Architecture

- Monolithic architecture - single point of failure
- Outdated OS, libraries, etc.
- Not scalable and difficult to maintai.

- Operating system independent
- Easy to maintain (development and operation)
- Decoupled and scalable (e.g., K8S if need be)

EGI Accounting Portal – New Architecture

The migration to the new architecture was done during a requested downtime the 8th of June (Downtime 34047) with no issues and the previous version is maintained in case it is needed.

Fixed issues while transitioning to the new architecture:

- Broken footer on the reports views,
- Stylesheets and CSS files that didn't work,
- Outdated libraries in the services,
- PHP and other updates in the API that where needed for updating the architecture into independent components with containers.

EGI Accounting Portal - Updates

Ticket EGITCB-133: port code to python3 ✅

- Python has been updated from version **2** to version **3.1**.

Ticket EGITCB-454: update Django ✅

- Django has been updated from version **1.9** to the latest one (version **4.1**).

Ticket EGITCB-134: Improve performance and responsiveness of the Portal ✅

- Improvements observed in the new version - monitoring and KPIs will be collected before closing the ticket.

Ticket EGITCB-135: Stress and security testing ✅

- Basic testing in production as part of the change management process (IMSCHM-203 / 210)

EGI Accounting Portal - Updates

Ticket EGITCB-449: replacing HepSpec06 with the new benchmark ✅

- We replaced in the web interface all of the references to the current benchmark **Hepspec06** with the new one, **HEPscore23** (in the metrics, menus, text explanation, tables, and plots). New APEL subscription is under testing.

Ticket EGIREQ-62: Storage Accounting view in production

- Storage accounting records need to be summarised first (EGITCB-145)
- Once this is implemented, the view will be available in the accounting portal in production

Ticket EGITCB-183: GPU accounting in Cloud Compute
Ticket EGITCB-237: GPU accounting view in the Accounting Portal

- Dependent on having GPU accounting records in the repository

EGI Accounting Portal – Other aspects

Future improvements:

- API refactoring is recommended for better performance, responsiveness, and greater security.
  - The use of modern API technology using Python is recommended for software sustainability and homogeneity.

- Performance and responsiveness of the portal using caching (i.e., an in-memory data store).
  - Initial developments based on Redis showed major responsiveness improvements.

Thank you!

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