Computing Resource Information Catalog

Status Update

Outline

- A brand new product
- Status of the development
  - Application architecture
  - Integration with SSL and Shibboleth
  - Definition of the model and the APIs
- Conclusion

CRIC: starting fresh

- We decided to start a fresh project, keeping into account that:
  - The requirements have been elicited and analysed within WLCG;
  - Experiments' computing infrastructures are continuously evolving, thus posing new challenges to the information system;
  - We have gathered experience from eight years of operations both in WLCG and in the experiments;
  - We have few people joining the team, working together with experienced developers and team leaders.
- On the practical side, this means that:
  - The learning and startup curve is a bit less steep
  - The product is growing organically: components will be assembled with coherent interfaces, and API will be designed in close cooperation with stakeholders
  - The product is using the most recent software frameworks and tools for development and, later, deployment.

The Building Blocks

- Once the foundations of the product are well designed and implemented, the development will be faster and of good quality.
- We are currently working on:
  - Creation of an application architecture hosting the components
  - Implementation of the authentication and authorization components
  - Definition of the model in terms of entity classes, and the corresponding features presented in APIs
- The source code GitLab: https://gitlab.cern.ch/cric/cric

The Application Architecture

- The new CRIC service is using Django web framework for the server backend, with latest versions of jQuery (core and plugins) and Bootstrap as core libraries for webUI frontend implementation.
- The application infrastructure is a common framework hosting the several CRIC components, and handling them in a coherent way.

Authentication and Authorization

- CRIC service will be deployed on CC7 machines, and will authenticate users and authorize them according to several roles:
  - The WebUI will be behind SSO
  - The REST API requires at least a valid grid certificate
- Configuration needed for a correct configuration of the SSO at CERN:
  - get LCG-CA package
  - get CERN host certificates
  - install & configure Shibboleth client according to instructions provided for CC7:
    - Beware of the Apache 2.4 changes: (e.g. “Require shib-attr”)
  - register app
- Integrating this into Django using django.contrib.auth API.

Definition of the Model and the API

- A Django-based prototype is being developed as proof-of-concept:
  - It is used to get acquainted with the new tools and technologies
  - It describes some key entities and features of physical resources (Site, Service) and CMS-specific resources (CMSSite, Compute Unit, Compute Resource)
  - It allows to implement some core functionalities for WebUI, JSON representation, REST API
- It will be then integrated in the application architecture.

Conclusion

- CRIC development has started, and is proceeding well:
  - The core architecture is established
  - Several components are assembled

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Backup