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A COMPUTING RESOURCES ADMINISTARTION SYSTEM FOR CERN (CRA)

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CRA is a multi layered system with a web based front end providing centralized management and rules enforcement in a complex, distributed computing environment such as Cern. Much like an orchestra conductor CRA's role is essential and multi functional. Account management, resource usage and consistency controls for every central computing service at Cern with about 75000 active accounts is one important task of the system. Enforcement of the organization's rules and regulations on the usage of computing resources including strict security requirements in an environment with an ever moving population and changing services is another challenge CRA has addressed. In addition, the CRA application leverages its tight integration with the personnel system, to provide extra functionality like name reservation and dynamic email lists, allowing better coordination of the resources throughout the Organization.

CRA's lowest layer consists of an Oracle database for data storage and low level integrity controls. A database abstraction layer is provided by a set of Java classes and PL/SQL procedures. The interface for the end users has been implemented using Java generating dynamic html, and is based on the MVC architecture. Here, the Apache Java Struts framework provides most of the controller functionality while CRA actions implement the organization's business rules and logic. Asynchronous messaging is used for communicating with the client systems.

Primary authors: Mr PAWLOWSKI, Bartlomiej (CERN); Mr ZIOGAS, Nick (CERN); Mr VAN LEERSUM, Wim (Cern)

Presenters: Mr PAWLOWSKI, Bartlomiej (CERN); Mr ZIOGAS, Nick (CERN); Mr VAN LEERSUM, Wim (Cern)

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