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The Database on Demand service

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At CERN, and probably elsewhere, centralised Oracle-database services deliver high levels of service performance and reliability but are sometimes perceived as overly rigid and inflexible for initial application development. As a consequence a number of key database applications are running on user-managed MySQL database services. This is all very well when things are going well, but the user-managed database infrastructure rarely delivers the same service levels, most notably in terms of backup and backup verification, as the centrally managed services. This weakness in backend infrastructure could have major adverse consequences in the event of, for example, a hardware failure.

To address these issues, CERN has recently been exploring the possibility of supporting a “Database on Demand” service. Such a service would deliver a simple and intuitive web interface to empower users to create and exploit database instances without having to worry about the “back-end” aspects of database management.

The presentation will cover

- the rich web application, based on J2EE, that has been developed to allow users to request, start up, shut-down, reconfigure, backup and restore databases;
- the provision of database monitoring information to users;
- how we intend to handle database and operating system upgrades;
- details of how we exploit virtualisation and storage technologies to minimise our management costs; and
- possible future directions—although we have focussed on MySQL during the development phase, the architecture has been designed to be database system agnostic.

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