



Caspur relies on MySQL Enterprise to support its scientific research



Data mining in scientific research

Hardware: HP Blade C-Class

OS: Novell SLES,
Microsoft 2008
Server HPC edition

Database: MySQL Enterprise
Server

"Caspur relies on MySQL Enterprise because MySQL is the de-facto industry-standard database used in Bioinformatics. The MySQL Query Analyzer allows more effective monitoring and optimization of database queries."

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Information about CASPUR

CASPUR is a non-profit inter-university consortium which was founded in 1992, based in Rome. It deals with scientific supercomputing applications and innovative technologies (www.caspur.it). The CASPUR consortium comprises the "La Sapienza", "Tor Vergata", "Roma Tre", and "IUSM" universities in Rome, the "della Tuscia" university in Viterbo, the university and polytechnic in Bari, and the universities of Foggia and Lecce. CASPUR has approximately 120 members, including employees and scientific advisors. It makes use of a cutting-edge technical infrastructure and specialized applications, making it the most important supercomputing centre in Central-Southern Italy.

CASPUR boasts consolidated competences in the scientific, technical, application, and managerial sectors; in particular, the competences relate to mathematical models and calculations on fluid dynamics, materials science, chemistry, biology, bioinformatics, climatology, statistics, operating systems, languages, and environments for parallel and advanced processing, hardware platforms, storage devices, communication networks, e-learning, electronic mail, digital certification, electronic libraries and publishing, and finally, planning, implementation, organization, training, and operations management.

The business challenge

CASPUR wanted to provide its users with a system of high-performance and highly reliable services for accessing biological databases in the sectors of genomics, proteomics, microarrays and next-generation sequencing. The new structure will allow the researchers to have better access to scientific applications and data via an extremely efficient and scalable integrated system – all based on Web services, which also allow remote access.

The MySQL solution

CASPUR relies on MySQL because it is the de-facto standard database for the Bioinformatics industry, preferred by both application developers and the computational biology research community.

Thanks to a MySQL-based redundant system disk solution, CASPUR provides a "sharded" master/slave model to access data. CASPUR employs a MySQL Enterprise subscription that allows them to monitor application reliability using MySQL Monitor, and improves query performance through the MySQL Query Analyzer. The proven solution allows efficient scalability from 2 to 10 master servers and from 10 to 100 back-end slaves, which provide front-end Web services able to manage the dataflow from a supercomputing system based on a 2048 core cluster system.



MySQL Enterprise

Full Support & Less Risk for Your Production Database Applications

A MySQL Enterprise subscription includes the most comprehensive set of MySQL database software, services and support so your business achieves the highest levels of reliability, security and uptime.



Proactive database monitoring and advisory tools are available exclusively to MySQL Enterprise subscribers.

MySQL Enterprise includes:

- **MySQL Enterprise Server** – the most reliable, secure and up-to-date version of the world's most popular open source database
- **MySQL Enterprise Monitor** – GUI-based tools that continuously monitor your database and proactively advise you on how to implement MySQL best practices, including performance tips and security alerts
- **MySQL 24x7 production support** – with guaranteed response times to assist you in the development, deployment and management of your MySQL applications.

About MySQL

MySQL is the most popular open source database software in the world. Many of the world's largest and fastest-growing organizations use MySQL to save time and money powering their high-volume Web sites, critical business systems, telecommunication networks, and packaged software. At www.mysql.com, Sun provides corporate users with commercial subscriptions and services, and actively supports the large MySQL open source developer community.

For more information about MySQL, please go to www.mysql.com/enterprise

To contact MySQL online or via telephone, please go to www.mysql.com/contact



The World's Most Popular Open Source Database