



Success Story

Enterprise Linux Servers

University of Bologna

By implementing web applications on SUSE® Linux Enterprise, the University of Bologna has significantly reduced delays, frustration and paper-based administration for students and staff alike. The solution, based on Oracle RAC, delivers a range of online services including course enrollment, fee payment and academic record-keeping.



Overview

The University of Bologna is one of the largest educational institutions in the world, with more than 90,000 enrolled students and 10,000 staff across its 23 faculties. Founded in 1088, the University offers a wide variety of under- and post-graduate courses spanning the arts, sciences, humanities and agriculture.

Challenge

The student population at the University of Bologna (Unibo) is large and continually changing, generating an enormous volume of administrative work. At peak times during the academic year—notably, during enrollment and examinations—workload for Unibo's administrative staff was extremely heavy, with tens of thousands of paper documents to process.

Much of the work was repetitive and stressful for the administrators, and the paper-based system was also unpopular

with students who had to line up for several hours in various offices at the start of each semester. There was also significant work involved in updating each student's paper-based academic record, and teaching staff found that this relatively low-value administrative task was displacing more important teaching and research.

To cut administration, reduce paper-based documentation and accelerate services, Unibo decided to create web applications to deliver information and self-service tools to students and staff.

Solution

BIT services at Unibo is managed by Centro Servizi Informatici di Ateneo (CESIA), an internal department with around 50 direct employees and many contractors. CESIA had migrated an Oracle data warehouse from UNIX to SUSE Linux Enterprise in 2003, and chose it again for the new web applications.

"Moving from UNIX to SUSE Linux Enterprise immediately reduced the cost of ownership for our database systems, largely because it enabled the replacement of proprietary hardware with Intel processor-based servers," said Mauro Manzotti, Database Administrator at CESIA. "SUSE Linux Enterprise is an excellent platform for Oracle in terms of price-performance and stability, so we had no hesitation in selecting it for our databases and for various application servers."

"SUSE Linux Enterprise gives us the availability and performance of a commercial UNIX system without the cost and inflexibility of proprietary hardware."

ROBERTO GERVASI

Server Farm Manager
CESIA at University of Bologna



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

University of Bologna at a glance:

Multicampus Italian university with more than 90,000 enrolled students

■ Industry and Location

Education, Italy

■ Products and Services

SUSE Linux Enterprise Server

■ Results

- + Gained cost-effective, high-performance platform for Oracle
- + Reduced paper-based administration by implementing web-based applications
- + Enabled online enrollment and payment for courses

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The system is built on Oracle Real Application Clusters (RAC), and draws information from a large number of Oracle databases also installed on SUSE Linux Enterprise. The applications run on 20 servers (including production, testing and development), distributed in several clusters, providing information ranging from the curriculum to classroom availability and teachers' schedules.

A key function of the new service is the enablement of online course enrollment. Students can browse through the available courses, choose the ones they want and make any necessary payment using a credit card—all via the web.

“Before we created this service, students were lucky if they spent only a single day each semester waiting in offices and filling out forms,” said Manzotti. “Thanks to the web applications implemented on SUSE Linux Enterprise, administrative processes are faster and more convenient, and no longer generate huge volumes of paperwork.”

Each student has a personal record containing details of every examination they have taken, including the date, topics covered and final mark. Previously, lecturers and examiners had to fill in these records by hand after every examination. “With up to 200 students involved in each exam session, there was a lot of manual work for our academic staff,” said Roberto Gervasi, Server Farm Manager at CESIA. “The new web applications have been very enthusiastically received by the staff, who can dedicate more time to their teaching and research.”

Results

By replacing manual, paper-based administrative processes with online services accessible via the web, Unibo has seen a significant reduction in manual effort and administrative costs. The solution has freed up staff from a large amount of routine work, enabling them to focus on higher-value projects.

“Creating the new web applications had an immediate positive impact in terms of accelerating services and reducing costs,” said Gervasi. “In the longer term, we are likely to see a clear improvement in the quality of service as staff are released from low-value administrative tasks to work on strategic projects.”

Students benefit from easier access to information and self-service tools for enrollment and other administrative responsibilities. The solution also saves time and effort in the IT department. “We now have a solid, stable infrastructure that is easily scalable and is already beginning to pay off the initial investment,” said Gervasi. “SUSE Linux Enterprise gives us the availability and performance of a commercial UNIX system without the cost and inflexibility of proprietary hardware.”

SUSE Linux Enterprise is now installed on more than 70 servers at Unibo and is the University's strategic platform for service delivery.

“For critical services such as databases, we require very high levels of reliability, and Oracle RAC on SUSE Linux Enterprise is the ideal combination,” said Manzotti. “SUSE Linux Enterprise is also much easier to manage than our former UNIX platform, and the cost of ownership is correspondingly lower.”



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1 800 796 3700 U.S./Canada
1 801 861 4500 Worldwide

SUSE
Maxfeldstrasse 5
90409 Nuremberg
Germany