

Case Study

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Increased power and HPC capacity in the research area of the University of Granada.

"Fujitsu's supercomputing solution enables the University of Granada to meet user needs and the large power and computing capacity requirements demanded by research."



The customer

The University of Granada (UGR) was founded in 1531 and continues a long teaching tradition that links with that of the Madrasa of the last Nasrid Kingdom. It has five campuses and a sixth one under construction, which is about to be inaugurated (PTS – Health Sciences Technology Park), in the city of Granada (Spain), plus another two campuses in Ceuta and Melilla (Spain), in North Africa.

UGR has nearly 60,000 graduate and postgraduate students and another 20,000 who complete complementary studies (languages, summer courses, etc.). It employs 3,650 professors and over 2,200 office workers, technicians and service staff.

UGR, and particularly its Communications Networks and Computing Services Centre (CSIRC), have been involved with supercomputing since 1989. In 2006 it implemented the Andalusian Scientific Supercomputing Network in Granada at the initiative of the Regional Government of Andalusia and the University of Granada itself. The University built the Supercomputing centre at that time, where the first equipment for this supercomputing network was located. The first node was called UGRGRID and was included on the TOP500 list of the most powerful computers in the world in 2007.

Challenges

There were several challenges to be overcome:

- Increased power, capacity and energy efficiency of the HPC solution in order to be able to meet growing demand.
- Guarantee future integration and compatibility between Lustre and Infiniband systems.
- Offer the greatest possible number of Rmax Tflops on x86-64 processors.
- Volumes of temporary storage shared by all the cluster nodes using the Lustre file system

The customer

Customer: University of Granada (UGR)
Industry: Education / Research
Employees: 5.850
Website: <http://www.ugr.es>

The challenge

To increase HPC efficiency, capacity and power in the local university and in Andalusia as a whole and, where possible, to boost energy efficiency, thus meeting growing demand.

The solution

Installation of a Fujitsu PRIMERGY CX250/RX350/RX500 HPC cluster with 1,808 cores (3,616 threads in total), 4.28 TByte RAM, 72 TByte of shared storage and Infiniband QDR interconnection.