

High Performance Computing

Welcome to the support pages on supercomputing at IFCA.

Why supercomputing at IFCA

IFCA entered the supercomputing field with the installation in 2007 of the ALTAMIRA node of the University of Cantabria within the Spanish Supercomputing Network ([Red Española de Supercomputacion = RES](#)) coordinated by the [Barcelona Supercomputing Center \(BSC\)](#). The node systems were installed at IFCA datacenter room, and its operation supported by IFCA team in a joint effort with ATC group. The first ALTAMIRA node system was a cluster of 256 IBM PowerPC JS20 servers, with a total of 512 cores, part of the first Mare Nostrum supercomputer installed previously at BSC. This system made into the [top500.org](#) systems in 2007, and operated successfully within the RES until 2012.

The ALTAMIRA node was upgraded in June 2012 with the installation of a new system at IFCA datacenter room. The system was presented on 3rd October 2012 (see the video at <http://www.rtve.es/alcarta/videos/telecantabria/telecantabria-03-10-12/1542705> (Telecantabria 2 - 03/10/12, min. 8:02)

Our supercomputing services also include support for large and high-performance data storage, advanced network support, and adaptation and optimization of parallel applications.

Altamira Supercomputing Node at University of Cantabria

The supercomputing node at the University of Cantabria is named ALTAMIRA.

Its use is offered as part of the [Santander Supercomputing Services](#) within the Scientific-Technical Services at University of Cantabria.

The current systems in the ALTAMIRA node include:

- An HPC cluster, integrating IBM-idataplex dx360m4 servers, each one with 2xE5-2670 Intel Sandybridge Xeon processors, 64GB RAM, 500GB HD and all of them interconnected with [InfiniBand](#) FDR10 cards and switches from Mellanox in FAT tree topology, completing a system with more than 2500 cores and 10 Terabytes of memory. The peak capacity exceeds 50 Tflops.
- An small GPU based cluster, with 5 IBM-idataplex dx360m3 servers, each one with 2 GPU nVidia Tesla M2090 cards, interconnected also via Infiniband
- A cluster with IBM POWER7 blades, with capacity for up to 700 processes to execute intensive CPU applications.

ALTAMIRA is connected to an on-line storage system offering to users capacities up to Petabytes under the GPFS parallel file system, and unlimited archiving on tapes with 20 years lifetime.

See a short video here: <https://vimeo.com/138956695>

How to Access to Santander Supercomputing Services

Santander Supercomputing Services are available for:

- Researchers at University of Cantabria, follow this [link](#).
- Researchers in Spain, through the Spanish Supercomputing Network, RES, coordinated by BSC, follow this [link](#).
- New research projects, with external institutions or with companies, follow this [link](#).

Please, acknowledge the [Usage Terms](#).

Using Santander Supercomputing Services

If you already have access granted for execution of applications, see the [ALTAMIRA Userguide](#).

If you need support for adaptation of applications, or need more information, please contact ssc@unican.es

Contact for this page: marco@ifca.unican.es