



Welcome to Teide HPC

For more information about infrastructure, please visit teidehpc.iter.es or send us an email to teidehpc@iter.es



The Teide HPC (High Performance Computing) infrastructure constitutes a fundamental piece of the ALiX project for the implementation of infrastructures aimed at creating an industrial fabric around Information and Communication Technology (ICTs) in Tenerife.

The Teide supercomputer, the second most powerful in Spain, offers researchers, companies of the Tenerife Science and Technology Park, and the University of La Laguna, a means of high processing capacity, to improve and expand the national and international scope of the investigations. It is also present in the top500 list of the most powerful supercomputers in the world, occupying position 138 on the list of November 2013.

The Teide supercomputer is a general-purpose, high-performance computing infrastructure. It is comprised of 1,100 Fujitsu compute servers, with a total of 17,800 compute cores and 36 TB of memory, a high-performance network, and a NetApp parallel storage system. Managed at ITER, the Teide supercomputer is housed in the D-ALiX datacenter and provided with high-availability electrical and cooling infrastructure, and high-speed internet connectivity.

Compute nodes

TeideHPC has three types of computing platforms.

- Sandy bridge platforms.

1028 nodes with two processors **Intel Xeon E5-2670** and **32GB** or **64GB** of memory.

- Ivy bridge platforms.

72 nodes with two processors **Intel Xeon E5-2670v2** and **32GB** of memory.

- Fat nodes.

3 nodes with four processors **Intel Xeon E5-4620** and **256GB** of memory.

- Cluster of GPUs.

In the process of acquisition.

Storage

NetApp storage with a net capacity of **500TB**, configured in a cluster format with all redundant elements to face possible hardware failures, with spare disks according to best practices, these being global.

Lustre parallel storage will also be available for applications requiring a high number of I/O operations.

Net

Teide-HPC has a network topology where four specific purpose networks are defined.

- Dedicated storage network.
- Dedicated management network.
- Out of band net.

- 40Gbps Infiniband QDR low latency network for computing.

As security measures, TeideHPC has IPSec tunnels, VPN connections and the possibility of establishing private VLANs for its clients.

Connectivity

TeideHPC connects to internet through **RedIris**, the Spanish Academic and Research Network, with a 10 Gb link. It also has connectivity through the ALiX project.

For **data transfers**, there are transfer nodes that allow large amounts of data to be copied to user space by directly accessing the data backbone.