Welcome to Teide HPC

For more information about infraestructure, 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 is one of the 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. 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.

Cluster description

The following diagram describes how the cluster is structured.
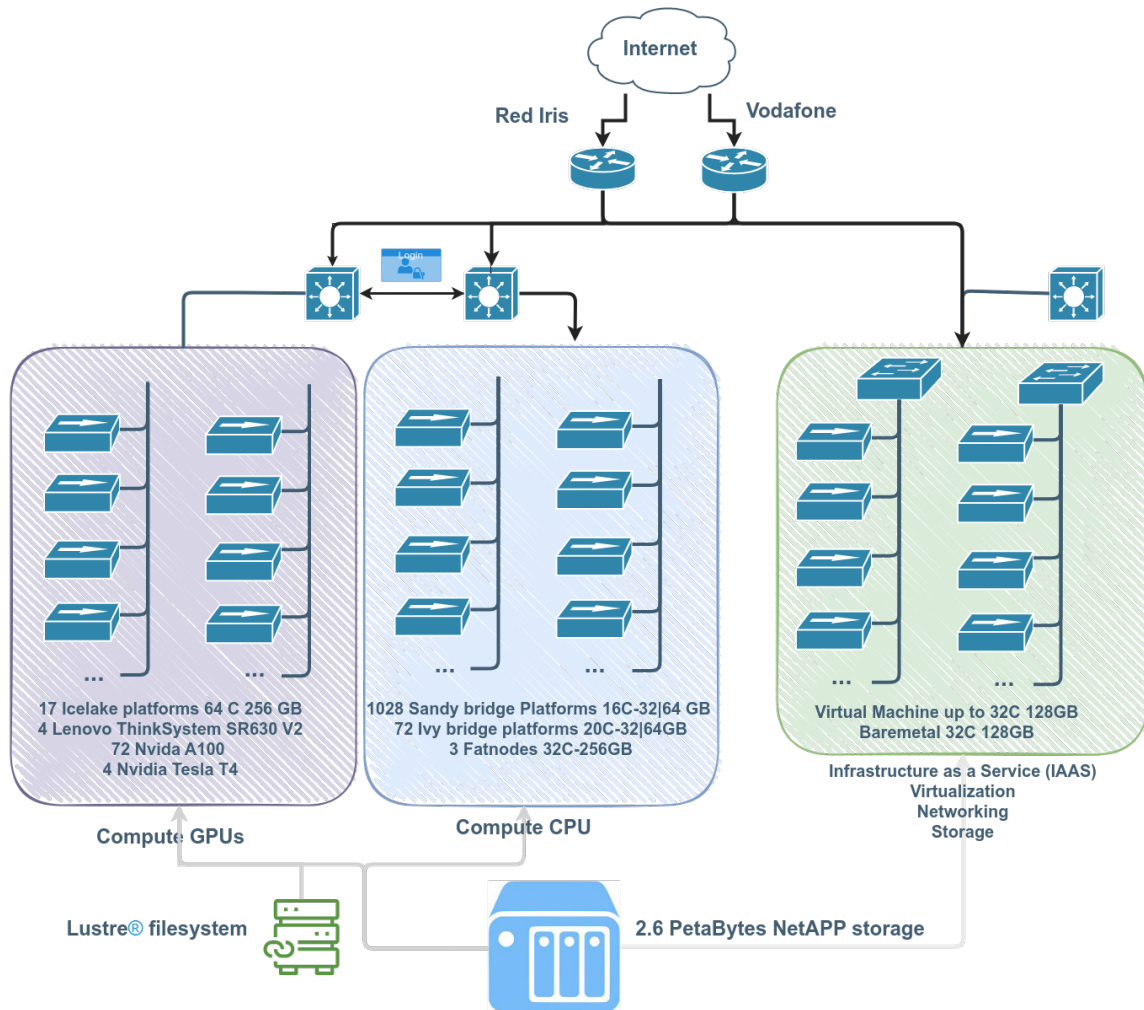
Compute nodes

TeideHPC has these types of computing platforms.

Type	Qantity	Platform	Processors	Cores	Memory	# GPUs
CPU	>500	Sandy bridge	2 X Intel Xeon E5-2670	16	32-64GB	-
CPU	72	Ivy bridge	2 X Intel Xeon E5-2670v2	20	32-64GB	-
CPU	3	Sandy bridge	2 X Intel Xeon E5-4620	32	128-256 GB	-
GPU	16	Icelake	2 X Intel Xeon Gold 6338 32C	64	256 GB	4 Nvidia A100
GPU	1	Icelake	2 X Intel Xeon Gold 6338 32C	64	256 GB	8 Nvidia A100
GPU	4	Icelake	2 X Intel Xeon Gold 6338 32C	64	256 GB	8 Nvidia T4

Storage

- **NetApp** storage with a net capacity of **2.6 Peta Bytes**, 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.

- 100Gbps Infiniband EDR 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 with another spanish provider.

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.