

**Form for a « Grand Challenge » submission
on BULL-Xeon supercomputer at CCRT (titane)**

Machine type: X86-64 only X86-64 with GPGPU

Project name

Organisation/project leader

Name, email, postal address, phone number.

Context, main goals and challenge

The major actors of the domain, state of the art, previous simulations in the field, scientific trends on this topic, etc

Project description

Partners, innovations and goals of the project, specific motivations.

Main meaningful characteristics of the calculation: number of cells, number of particles, number of atoms, etc

Expected specific scientific results.

Bibliography

External and/or team publications related to the subject.

Foreseen dissemination

Type of publications that are planned as a result of the “Grand Challenge”.

Computational resources requirements

Estimation of the resources and equipments required for the calculation: number of cores, number of GPUs if any, duration of the simulation expressed in hours, requested memory size by core, etc..

Codes

Description of applications/codes: type of code (finite element method, Monte Carlo, etc.), discretized equations, numerical methods and schemes, parallelism model (MPI, OpenMP &MPI, hybrid CPU &GPU)

Machine type and configuration on which the code was already run: IA64, EMT64, etc

Availability of a software checkpoint/restart mechanism.

Initialization methods: files, pre-processing, etc.

Requested software package and libraries: HDF, FFTW, BLAS, etc.

Results

Type and volume of data generated by the calculation: data files, images, movies, etc.

Project timeline

Constraints: one or several phases, preliminary tests, monitoring/control of the computation by a team member, etc.

Deliverable of the « grand challenge »

The project team will write a report of the grand challenge: results obtained, performances reached, problems encountered...

To be sent to support.ccrt@cea.fr