SW_HPC4WE

Skywin
Aerospace cluster of Wallonia

High Performance Computing For Walloon Enterprises

2014-2017

Αхe(s)

Modeling
& Simulation

Industries

GDTech
NUMFLO
Open Engineering
GEONx

Research Bodies

Cenaero
ULg
UCL

Total Budget

3,4 M€

Type

R&D

In a competitive environment with emerging countries, reducing overall development lead-time is linked with a significant reduction in non-recurring development costs and recurring costs. Moreover, the end-user demand requires a reduction of operating expenses requiring to ensure better control of the behavior of equipment over time in relation to different environmental parameters.

To integrate these technical and economical constraints, a privileged axis is related to the field of numerical simulation (mechanical & fluid multi-physics). It seems now obvious that we have to go to simulation capabilities for processing larger models, covering multiple operating points, while remaining in computational times compatible with industrial constraints.

The chosen approach in this project is to parallelize large scale (> 10 000 cores) solvers developed by Walloon CAE editors. The infrastructure supporting the activities of the project will be the cluster funded by the Walloon Region which will be installed within the research center Cenaero thanks to the European PRACE program.

The objective will also focus on adapting this environment and / or software operated to improve the remote accessibility, for example by setting up Cloud Computing technologies adapted to supercomputing.