

# Tailor-made Workload Management Solutions for High Performance Computing

## Using computer resources at its best

### Do you know the situation that ...

- your employees have to spend a lot of time searching for available computers or negotiate with their colleagues about the usage of scarce licences?
- you write batch scripts to start computing runs in the evening and during weekends?
- you have to integrate your new cluster into your existing workflows?
- several departments of your company want to operate one cluster together and bill it on usage basis?
- you want to increase the performance of your compute farm and decrease the energy costs?

**We support you in easily using and efficiently utilizing compute resources. Atos as a specialist for workload management systems (WLM systems) is your ideal contact, whether you are still searching for the appropriate WLM system or already operating a complex computer environment**

### What we can do for you

- Vendor-independent consulting regarding the selection of the WLM system that meets your requirements at its best
- Installation of the WLM system of your choice on your clusters and workstations, whether your computer environment is homogeneous or heterogeneous, local or distributed over multiple locations
- Configuration of the WLM system according to your demands to provide the best utilization possible of your compute resources
- Integration of the WLM system in your existing environment, e.g., connection to license servers, file servers, LDAP and integration of GPUs and other specialized hardware
- Integration into individual workflows to support your operation processes effectively
- Integration of applications: A variety of applications allow to connect the application to a WLM system directly. With some applications, a job can even be sent via the GUI of the application to the WLM system. We support you in making the connection of the application to the WLM system as seamless as possible
- Submit concepts: Atos offers its own modular submit system abstraction layer with multiple ready-made submit modules for important CAE applications like ANSYS, ABAQUS, Hyperworks and many others
- Custom-made programs from scripts to integrate the WLM system into your environment and to connect to optimization tools up to the development of portal solutions and GUIs tailored to customer's requirements
- First and second level support for selected WLM systems
- Training for users as well as for administrators, workshops tailored to customer's requirement

# Tailor-made Solutions for Workload Management

## Our expertise

- Expertise gained in hundreds of implemented HPC solutions
- Many years of experience in designing and operating complex environments
- Specialist for heterogeneous (Linux, Windows) infrastructures
- Integrated approach from design to operation

## Your benefits

- Optimal utilization of your hardware and your licenses
- Customized solutions for your requirements
- Vendor-independent
- All from one source
- Experience gained in hundreds of projects

## Cloud Migration

Integrating Cloud HPC resources often implies technical limitations like the mandatory use of the MPI framework of the cloud provider or provider-specific forks of a common WLM systems like Slurm.

Atos takes care about integration your use-cases and workloads in a seamless way. We analyze your existing and planned simulation scenarios and propose the most efficient solution, including hybrid cloud bursting options.

## Success Stories

### Automotive

At a major company in the automotive sector, Atos operates a compute farm with about 1 Mio CPU Cores in distributed HPC clusters, hundreds of clients and 30 applications. Atos is responsible for installation, configuration and operation of the cluster. By further developing the compute environment, Atos has substantially increased the value of the clusters for the customer – e.g. by implementing a Green IT solution

### Life Science/Pharma

At this customer, Atos services a Linux cluster with 100 nodes from hardware installation to workflow management. On this cluster, about 100 job types with different resource requirements use approximately 40 different applications. Some of the applications are integrated using a workflow tool, but 80% of the jobs are – e.g., Schroedinger or Tripos jobs – submitted directly from the application or using the Atos job submit framework *scsub*

## About Atos

Atos is a global leader in digital transformation with 105,000 employees and annual revenue of over € 11 billion. European number one in cybersecurity, cloud and high performance computing, the Group provides tailored end-to-end solutions for all industries in 71 countries. A pioneer in decarbonization services and products, Atos is committed to a secure and decarbonized digital for its clients. Atos operates under the brands Atos and Atos|Syntel. Atos is a SE (Societas Europaea) listed on the CAC40 Paris stock index.

The purpose of Atos is to help design the future of the information space. Its expertise and services support the development of knowledge, education and research in a multicultural approach and contribute to the development of scientific and technological excellence. Across the world, the Group enables its customers and employees, and members of societies at large to live, work and develop sustainably, in a safe and secure information space.

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