

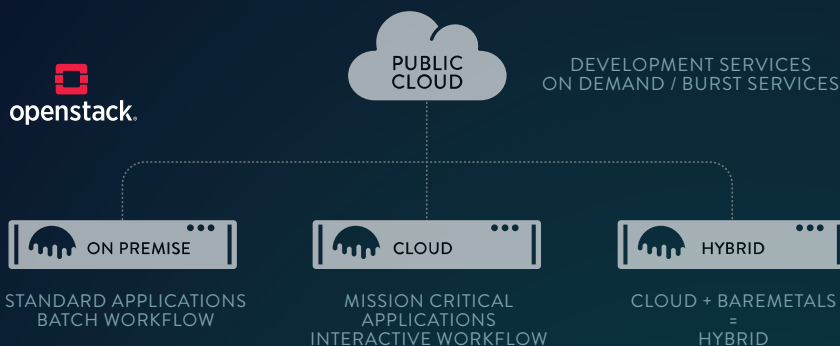
MEDOOZA

HIGH
PERFORMANCE
COMPUTING

MEDOOZA THE E4 SOLUTION FOR HIGH PERFORMANCE COMPUTING

Medooza is the E4-designed solution for **High Performance Computing (HPC)**, implemented and configured using a suite of Hardware and Software components, appropriately harmonized.

Medooza provides an intuitive and easy-to-manage approach to HPC clusters typical of traditional infrastructure, but with the **flexibility** and **robustness** of state-of-the-art systems.





HIGHLIGHTS

- HPC cluster designed according to specific customer requirements
- Strong optimization between hardware and software with custom and standard configurations for X86/64
- GPU, storage and high-speed interconnections
- Extensive and long-lasting stress testing to ensure reliability
- Output test data and performance results are shared with customer before delivery
- Use of OpenStack to manage cluster flexibility and redundancy
- Based on a HW/SW suite properly harmonized by E4 experts
- Available in On Premise, Cloud and Hybrid versions
- Continuous integration of new modules and latest generation features

SPECIFICATIONS

Software	Open source
Control Nodes	Configured on OpenStack to open HPC to the cloud world. Highly available (HA) HPC services configured over Openstack
Compute Nodes	Available in On Premise (baremetal management), Cloud (Openstack management) and Hybrid versions
Storage infrastructure	CEPH on Control Nodes
Parallel Storage (optional)	BeeGFS on dedicated storage nodes
BaaS	Deploy via OpenStack of bare-metal Compute Nodes
IaaS	Deploy OpenStack images of instances on Compute Nodes

ADDITIONAL OPTIONS

Backup	Implementation of solutions based on FOG/Bacula
Disaster Recovery	Implementation of solutions based on StorWare
ICE4HPC	While jobs continue to be managed by the workload manager (SLURM) services, ICE4HPC enables interactive web-based use of compute resources. ICE4HPC is configured to optimize user experience for both interactive users and those submitting jobs to batch queues (from the command line).
ICE4AI for HPC Cluster	
ICE4AI	 ↔ 
Slurm Advanced	Accounting, billing, QoS, FairShare, etc

ADDITIONAL MODULES

Cubeview	Single and multi-cluster centralized and adaptive mobile responsive web interface for managing a data center and its software applications
Tardis	Storage on demand system, a tool for automated definition and creation of storage environments
Talos	System for centralized cluster management. CLI interface for centralized management of Cluster nodes and configuration, monitoring and diagnostic activities

E4 ENGINEERS SOLUTIONS FOR HIGH PERFORMANCE COMPUTING INFRASTRUCTURES

E4 COMPUTER ENGINEERING DESIGNS AND BUILDS HIGH-TECH SOLUTIONS FOR HPC CLUSTERS, CLOUD SERVICES, DATA ANALYTICS, ARTIFICIAL INTELLIGENCE AND HYPER-CONVERGED INFRASTRUCTURES FOR BOTH THE ACADEMIC AND INDUSTRIAL SECTORS. WE HAVE BEEN COLLABORATING WITH THE LEADING NATIONAL AND INTERNATIONAL RESEARCH CENTRES (CINECA, CERN, ECMWF, LEONARDO) FOR YEARS AND ARE CURRENTLY INVOLVED IN SEVERAL NATIONAL AND EUROPEAN PROJECTS IN THE FIELDS OF HPC AND AI (EUROHPC JU, EPI, EUPEX, HORIZON EUROPE).

WHY CHOOSE E4 COMPUTER ENGINEERING

Volatile markets, the emergence of new applications and the expansion of data to manage, process and analyse mandate the development of more complex architectures. Technological progress requires specific high-level knowledge and expertise delivered professionally. At E4, we are always researching new opportunities to pursue and tackling today the process of digital transformation by offering flexible and scalable solutions supported by excellent additional services.

R&D

More than 50% of our staff at E4 make up a growing team of systems engineers with highly specific expertise, which creates innovative solutions everyday to put on the market. Our engineers select, test, integrate, install and configure hardware and software components, which are later equipped and optimised with the correct infrastructure for simple and efficient IT management.

E4 COMPUTER ENGINEERING: SOLUTIONS FOR EXTRAORDINARILY INNOVATIVE CLIENTS

E4 COMPUTER ENGINEERING: THE APPROACH THAT SETS US APART

Every clients can count on our methodology, tried and tested for over two decades, and our rigorous approach:

- because we LISTEN attentively to the demands of our clients
- because once we have identified what is needed, we EXPLORE the best offers from ISVs and their partners, in every technological domain to optimise every aspect of the solution
- because we take an AGNOSTIC approach to researching and selecting components, so as to offer an infrastructure that is most suitable in every case
- because we design FLEXIBLE solutions where the path through all operating stages, from testing and performance validation to final production, is made easy for the client, both onsite and on the cloud.