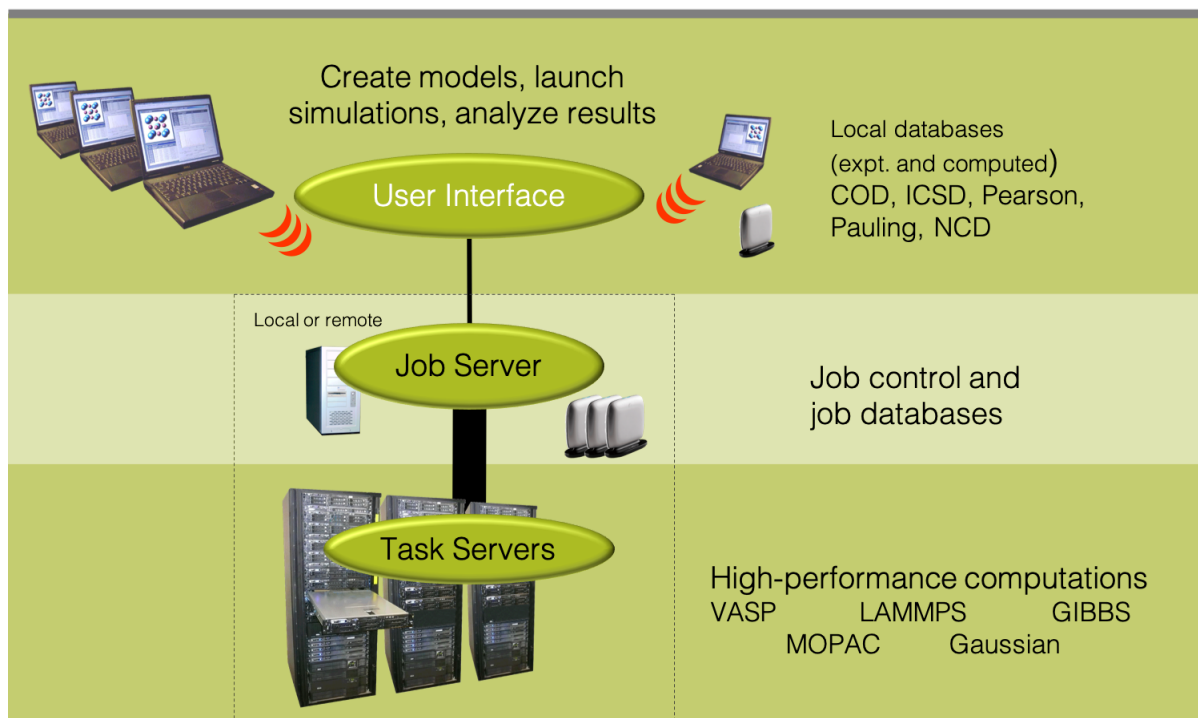


# Overview

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MedeA's 3-tiered architecture consists of the MedeA graphical user interface (main tier), the JobServer (middle tier), and the TaskServer (end tier). The middle tier or the JobServer is the central hub for computational job control, job pre-processing, and job post-processing. The JobServer maintains a database of job-related data and stores computational results on the disk.



There is no direct communication between the MedeA GUI and TaskServers, instead all data flows through the JobServer.



These tiers can be on the same or different machines; there is no conceptual difference between running all three tiers on one laptop or using three different machines for GUI, JobServer, and TaskServer. One installation image allows installing MedeA, JobServer, and TaskServers (running computationally intensive codes including VASP, LAMMPS, GIBBS, Gaussian, and MOPAC) on both Windows and Linux operating systems. MedeA uses SQLite to manage experimental databases, code specific data and data generated by the user. SQLite is completely integrated in MedeA and does not require any external database engine.

## 1 Administrative rights

*MedeA* requires administrative rights during installation, particularly for the creation of JobServer and TaskServer services that cannot be done with basic user permissions.

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**Hint:** The most effective way is to grant the final *MedeA* user temporary administrative rights, perform the installation and rescind administrative rights after successful testing.

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## 2 Hardware Requirements

Component	Requirement
Operating system	Windows: XP/Server2003/Vista/7/8/10; Linux: Centos, RedHat, Debian, Fedora, Suse, Ubuntu, Oracle, Mint
Architecture/Processor	Most 64bit architectures from Intel and AMD: Opteron, Core2, Core2Duo, i5, i7.
CPU speed	Strong floating point performance required. No lower/upper hard limit on clock speed
GPU	NVidia Tesla GPUs only
Memory	1-4 GB RAM per core; 4 GB/core is recommended for VASP
Hard Drive space	5 GB minimum for a full <i>MedeA</i> installation, no lower/upper hard limit for storing user generated data
Graphics	OpenGL 2.1 and higher and at least 128 MB of memory
Network	Fast Ethernet, 100 MB or faster
Display	Screen resolution of 1280x800 at minimum, recommended 1920x1080