



Grid Computing at Erasmus MC

What is Grid Computing?

Computational power and the storage of large data sets are now indispensable to advances in research, diagnostics and treatment.

At Erasmus MC, full facilities for this are provided by two independent infrastructures: the Erasmus Computing Grid and the Life Science Grid. Both are available to researchers and physicians who have high computational demands.

What is a Computing Grid?

A computing grid consists of interconnected computer systems or so-called computing nodes. In general, all computational resources in a grid can be used collectively. Such grids are often used for complex or very time-consuming calculations that lie beyond the scope of a single desktop computer.

The Erasmus Computing Grid and the Life Science Grid offer huge computational resources that were previously available only on supercomputers.

■ Erasmus Computing Grid

The Erasmus Computing Grid is deployed at Erasmus MC and Hogeschool Rotterdam.

A desktop grid is suitable for lots of jobs on a very large number of desktop PC's.

The Erasmus Computing Grid is a desktop computing grid that harnesses otherwise unused (wasted) processor time from idle desktop workstations at Erasmus MC (~6000 computers) and Hogeschool Rotterdam (~6000 computers). Available to researchers at Erasmus MC, the grid provides easy access to computational and storage resources. To expand the Erasmus Computing Grid, we are seeking other organizations that are willing to donate their unused and potentially wasted processor time.

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■ Life Science Grid

The Life Science Grid is a national grid of computing clusters deployed at several universities and research centers. Erasmus MC has one such cluster.

A grid of dedicated computing clusters is capable of executing demanding jobs.

Erasmus MC is a participant in the Life Science Grid, a national e-science project of BiG Grid. The Life Science Grid is a dedicated, distributed facility that is deployed at universities, medical centers and research labs throughout the Netherlands.

The grid is facilitated by SARA, the national high-performance computing and e-science support center, which also supports grid use. Bioinformatics on the Life Science Grid are supported by NBIC and NWO/NCF through programs such as BioAssist.

Part of the Life Science Grid infrastructure is a cluster situated at Erasmus MC. This cluster is also capable of running MPI-enabled programs. Together with the other clusters and storage elements, this grid infrastructure provides researchers at Erasmus MC with computational and storage resources.

Access to the Life Science Grid can be granted by your local grid registration authority.

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■ External Grid Resources

As well as the Erasmus Computing Grid and the Life Science Grid, other external grid resources are available to researchers at Erasmus MC (restrictions may apply):

National grid resources: Almere Grid, BiG Grid

International grid resources: EGEE, EDGeS, D-Grid



Erasmus MC: resource broker for High Throughput Computing

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Start

For further information or to discuss your specific needs, please contact either the Erasmus Computing Grid or the Life Science Grid. Or visit the Erasmus MC grid webpage: www.erasmusmc.nl/grid

Storage

Research data stored on EDRA (Erasmus Digital Research Archive) or on any other local or external storage device can be accessed by or transferred to the Erasmus Computing Grid or the Life Science Grid.

Contact: edra@erasmusmc.nl Tel 010 704 31 22 Ee-2165

Security

The Erasmus Computing Grid and the Life Science Grid are monitored intensively in close cooperation with donor organizations and the Erasmus MC security officer.