

The Dutch Life Science Grid

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Today's Life Scientists need to have advanced High Performance Computing facilities at their disposal. For that reason, and commissioned by the Dutch BioInformatics Centre (NBIC) and the Dutch grid infrastructure project (BiGGrid), SARA places, maintains and supports small but powerful computer clusters at the local sites of academic medical hospitals and universities. These clusters are interconnected by high speed network connections and can be used simultaneously by the use of GLITE Grid middleware. A number of Use Cases have been formulated and development of a number of biological applications running on this infrastructure is in progress. Among the areas which are involved are metabolomics, proteomics and micro array analysis. The use cases describe several biological pipelines which will be realized by Grid and web services, interconnected by workflow descriptions.

Provide a set of generic keywords that define your contribution (e.g. Data Management, Workflows, High Energy Physics)

grid facilities, Life Science,

1. Short overview

This paper will describe the distributed infrastructure called the Dutch Life Science Grid and the applications using it.

3. Impact

For some scientific disciplines, such as high energy physics and quantum chemistry, High Performance Computing (HPC) is part of the standard toolkit. For other scientific disciplines, for example the Life Sciences, this is not yet fully the case. In addition to Grid access the Dutch Life Science Grid offers the life scientist standard batch-type access to a single cluster's compute and storage facilities in order to make the use of it as low threshold as possible and facilitate easy debugging of applications. In an sister project the NBIC provides the hosting institutes with scientific programmers to griddify the life scientists's applications.

4. Conclusions / Future plans

The Dutch Life Science Grid is in operation and is being used by Dutch Life Scientists. It currently consists of grid nodes at five locations. Over the coming 18 months another 10 locations will be added to this.

Authors: Dr JANSEN, Machiel (SARA); Dr BOUWHUIS, Maurice (SARA); Mr VAN BEEK, Pieter (SARA)

Presenter: Dr BOUWHUIS, Maurice (SARA)

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