

Using Grid services for Sciamachy data sharing and processing

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Describe the scientific/technical community and the scientific/technical activity using (planning to use) the EGEE infrastructure. A high-level description is needed (neither a detailed specialist report nor a list of references).

The Netherlands Sciamachy Data Center (NL-SCIA-DC) provides access to satellite data from the GOME and Sciamachy instruments. GOME and Sciamachy both measure trace gases like Ozone, NO₂ and aerosols, which are important for climate and air quality monitoring. The NL-SCIA-DC serves the atmospheric research community not only with the data but also with services like processing and data mining.

Report on the experience (or the proposed activity). It would be very important to mention key services which are essential for the success of your activity on the EGEE infrastructure.

Our aim is to add user-requested functionality to NL-SCIA-DC for which currently the computer and/or storage resources are not available to the partners KNMI and SRON. Grid technology will help us to extend the functionality of NL-SCIA-DC without losing the current high-standard of security and to make efficient use of the resources available at KNMI, SRON and elsewhere.

With a forward look to future evolution, discuss the issues you have encountered (or that you expect) in using the EGEE infrastructure. Wherever possible, point out the experience limitations (both in terms of existing services or missing functionality)

The end result will be an integrated 'griddified' NL-SCIA-DC, integration of two organization domains (SRON and KNMI) using standard and open general purpose protocols and interfaces, delivering non-trivial quality of service to the Dutch and international atmospheric research community.

Describe the added value of the Grid for the scientific/technical activity you (plan to) do on the Grid. This should include the scale of the activity and of the potential user community and the relevance for other scientific or business applications

The data services will be upgraded to offer additional functionality to end-users of Sciamachy data. One of the functionalities provided will be the possibility to select and process Sciamachy products using different data processors, which can lead to intensive use of the limited computing and data storage resources available to NL-SCIA-DC. Through our partners SARA and NIKHEF the NL-SCIA-DC can use facilities provided by the Dutch Grid infrastructure. The NL-SCIA-DC will also run tests to be coupled to the ESA G-POD Grid infrastructure. This future cooperation will give the NL-SCIA-DC users access to a wider range of instrument data available at G-POD, and G-POD can offer our data services to the G-POD users.

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