

# COM 01 A virtual data portal for CcSP projects

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## Context / Social problem

Many CcSP projects produce large quantities of data. These data are important for the project itself, but will be even more valuable if made available to all potential users (not only other CcSP projects but others as well). In many cases the CcSP projects themselves do not possess the expertise and/or resources available to make their data more accessible. Project priorities typically lie with the acquisition of data and translating it into knowledge, and less on making it more accessible to others. A comparable problem is found in the field of software tools to process the data (such as models, conversion of formats, visualisation). Here, too, the exchange and reuse of existing resources can make a valuable contribution to the collaboration between projects within (and outside) the BSIK CcSP programme.

## What do we know/not know?

Sectors like aerospace, genomics, astrophysics and nuclear physics often have to deal with enormous streams of data and need extremely high processing capacity and highly specific tools to process it. To deal with this effectively it would be ideal if everyone could make use of each other's knowledge and computing capacity, but in practice this runs into all sorts of technical and administrative problems. The worldwide effort on developing Grid Technology and Service-Oriented Architectures (SOA) aims to resolve this problem by linking computer systems across the world without hindrance and in a transparent and user-friendly way – and without any complicated and compulsory exchange of algorithms, models and/or source code. Within Climate changes Spatial Planning use is made of several highly data-intensive subprogrammes, for which this technology could be very important. However, the best form in which this modern information technology can be applied will depend on the specific characteristics of the projects (both as producers and consumers of data).

## What is being studied?

The core concept is the 'virtual data centre'. The goal is to create a central portal for project managers and external users that gives access to (consolidated) data products from selected projects within the Adaptation, Mitigation and Climate Scenarios themes. An infrastructure will be developed that will link together widely dispersed data sources and computer platforms in a type of cooperative network. It will allow the exchange of data and sharing of knowledge between participants (and if necessary, each other's computer systems and tools). At the same time, the project groups will retain control over their own specific algorithms and data collections. The first stage of the project is an inventory of user requirements. Then a start will be made with the development and construction of the prototype central portal through which the various parties can communicate.

## What are the results?

The idea is to upgrade the CcSP virtual data centre into a portal. CcSP participants will not only be able to exchange information and knowledge through this portal, but also make collective use of the available knowledge and expertise: knowledge exchange – on a highly distributed basis – and intensively across the full scope of the programme. The COM01 project will concentrate on the integration of the ICT structures at the various partner organisations to permit the efficient and effective integration and communication of knowledge, information and services. The system is expected to become operational by the end of 2007. Members of the oil exploration and genomics sectors have also expressed an interest in the grid technology being developed partly by BSIK projects.

