



prepIFS, a software infrastructure tool for climate research in Europe

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The purpose of the infrastructure is to enable users to perform numerical experiments, that allow the coupling of interchangeable model components, such as atmosphere, ocean, biosphere, chemistry etc. The infrastructure allows users to configure, submit, monitor and subsequently postprocess, archive and diagnose the results of these coupled model experiments remotely, e.g. without the user physically being in the place where the numerical computations take place. To achieve a remotely accessible system the infrastructure builds on the concepts of Web Services. This type of systems sends and receives data and messages via the HTTP protocol and can be used for Internet as well as intranet communication. Emerging standards in GRID services systems will make it possible to further enhance the interconnecting capabilities of prepIFS. Graphical user interfaces are provided to aid the modeller during the configuration and monitoring phase of his climate simulation.

The prepIFS system supports the configuration of emerging standards of control files in coupling software such as OASIS4. These meta-data files, which are defined declarative in XML, have been designed during the PRISM project (an activity of the European Union's Framework Programme V (FP5), 2001-2004).

The system is operational at ECMWF in support of the research department, has been further developed during the FP5 project, and currently supports the Global and Regional Earth-System (Atmosphere) Monitoring using Satellite and in-situ Data (GEMS) under the Sixth Framework Programme.