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e-infrastructure components to support the earth system modeling community in Europe

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A stepwise integration of existing expertise, distributed information resources and services of the modeling community is inevitable. A growing user community calls for consistent access to existing resources like model documentation, (post-)processing tools as well as climate model data.
Whereas substantial effort is invested to establish world wide climate model data handling infrastructures (e.g. the CMIP5/ESG data federation), e-infrastructural support to integrate information from the existing modeling groups, data centers as well as computing centers is missing.

From a technical viewpoint, in this talk we discuss the selection and development of e-infrastructural components for the European IS-ENES project. These components should facilitate consistent access to the european CMIP5/AR5 data and service providers in addition to providing a consistent view to diverse information and tools provided by the european modeling community.

The components discussed include: portal technology, information exchange protocols to collect highly structured as well as less structured descriptions (metadata) in the portal, semantic web technology to support searching based on a conceptual model.
A prototype of a semantic search interface for the IS-ENES portal is hereby described in more detail. It is based on a first conceptual model taking into account the information model developed in the Metafor FP7 project as well as specific IS-ENES needs. Metafor will provide the metadata foundation of the future CMIP5 data federation and thus provides a highly structured conceptual model for the model and model output related part of the IS-ENES infrastructure. This has to be related to less structured information sources describing associated dokumentation, tools, expertise, etc. in the community.