



Grid Virtual File System

User centric approach to data management in Medigrid project



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MEDIGRID project:

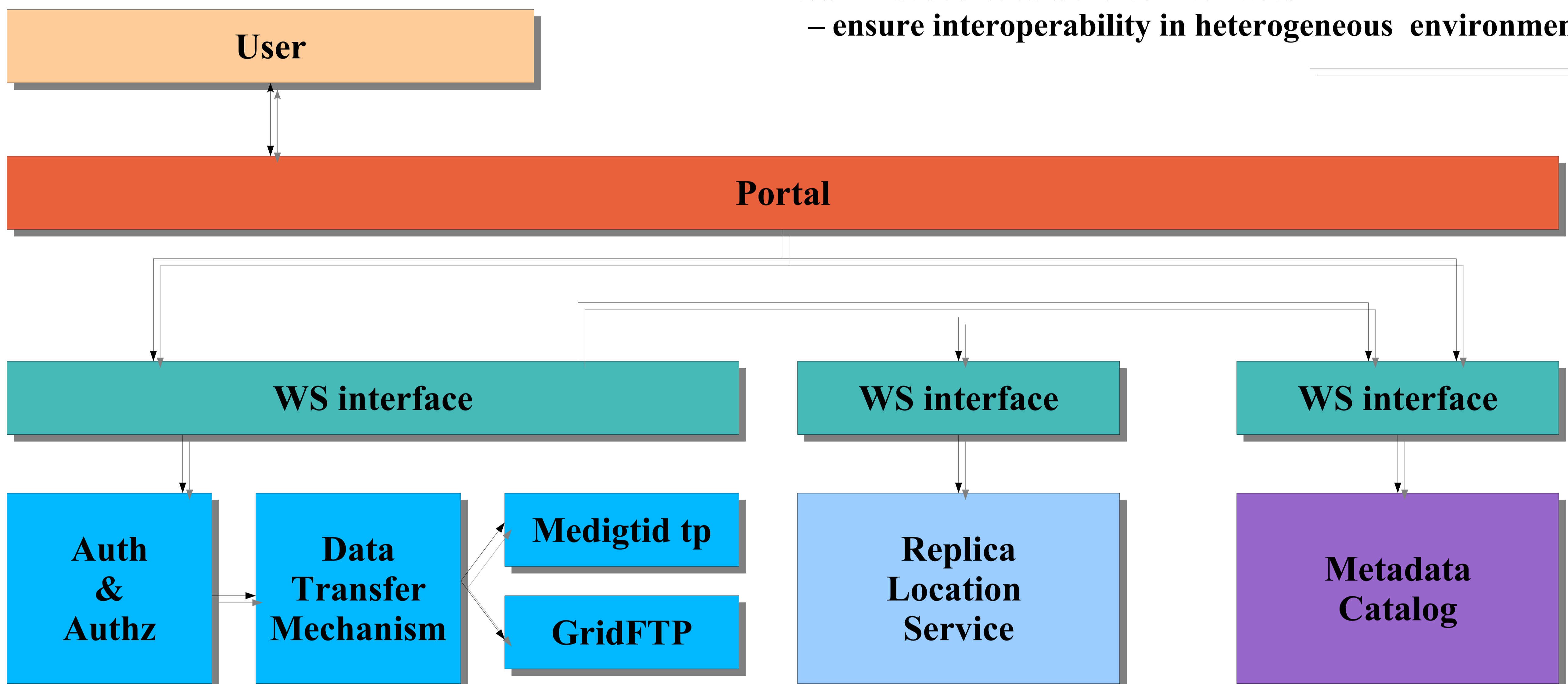
- distributed grid framework
- multi-risk assessment of natural disasters

Applications:

- forest fire behavior
- flash floods
- erosion
- landslides

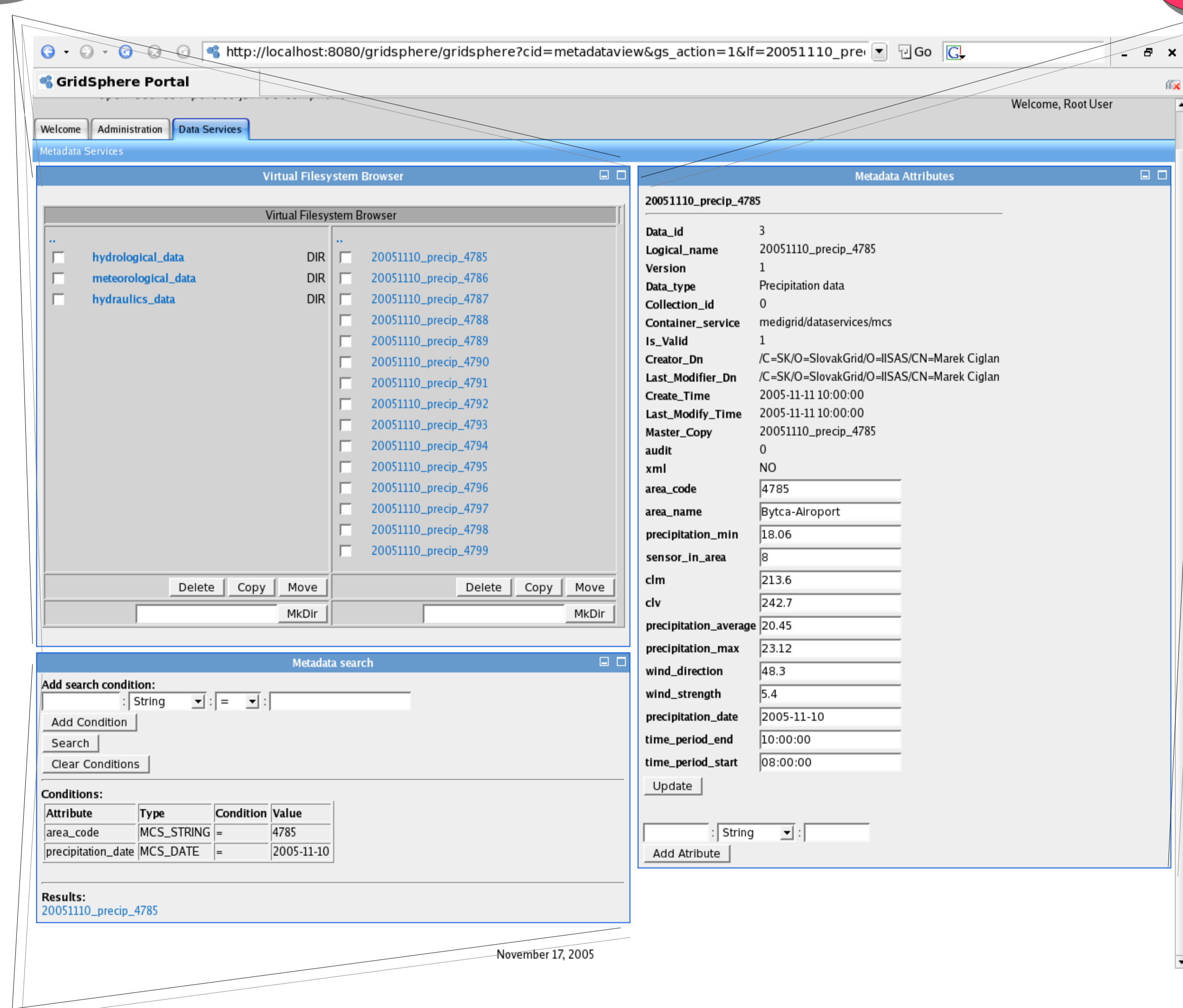
MEDIGRID technological challenges:

- Integrate HPC grid apps and non-grid apps in a single infrastructure
- System heterogeneity - Linux, Windows
- Fine-grained security policies for data access
- GSI based authorization and authentication
- Rich metadata service
- Ease of use for non-IT experts
- ›Develop platform independent data transfer mechanism
- ›Transfer mechanism integrated with GSI
- ›WSRF based Web Service interfaces – ensure interoperability in heterogeneous environment



Medigrid presentation & user interaction layer

1



2

Use of data services in today's grids:

- find data sets using metadata services
- locate data set using RLS
- job submission & data transfer
- register output files in RLS
- register output files in Metadata Service

requires significant knowledge of the system – too complex for non-IT users

MEDIGRID approach:

- make most of required operations transparent to the user
- provide simple user interface
- organize logical files in the tree of logical collections
- present logical collections and distributed file sets as a single 'virtual' file system to the user
- provide extensive metadata search

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Presentation Layer – Portal GUI:

1. Virtual file system browser
2. Logical file metadata viewer & editor
3. Metadata search portlet