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Extended Grid Data Management for UNICORE - Accessing files in SRM and LFC

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Impact

Typical file storage operations like directory browsing and file transfers for the stage-in or stage-out processes in UNICORE jobs are possible now for SRM storages and the LFC. Files indexed by the LFC can be accessed through an automatic resolution to its physical copies on storage elements, and are transferred transparently to the user.

Description of the Work

A major aspect of the EMI efforts is the improvement of the interoperability and the integration of the European Grid Middlewares, i.e. to make the access to and communication between them easier and more comprehensive. One handicap of the UNICORE data management was the impossibility to access files stored on remote Grid resources outside of other UNICORE instances like on SRM storages. Thus, one task of EMI is to improve this interoperability issue.

We will present how the UNICORE model of storage handling has been used to implement client access to SRM storages and the LFC and how the UNICORE user can utilize this possibility within his jobs. However, there exist some limitations in the implementation due to technical hurdles, that will be pointed out in detail.

Conclusions

These new possibilities to access Grid files from UNICORE ensure a more satisfying and coherent user experience of latest Grid technologies and lead one step closer to the goals of EMI.

Overview (For the conference guide)

Currently, most data in the Grid are stored on resources managed by the Storage Resource Manager (SRM). Additionally many of them are indexed in file catalogues, like the gLite File Catalogue (LFC), as well. One handicap of the UNICORE data management was the impossibility to access files stored on remote Grid resources outside of other UNICORE instances like on SRM storages. Thus, one task of EMI is to improve this interoperability issue.

We will present how the UNICORE model of storage handling has been used to implement client access to SRM storages and the LFC. Typical file storage operations like directory browsing and file transfers for the stage-in or stage-out processes in UNICORE jobs are possible now. Files indexed by the LFC can be accessed through an automatic resolution to its physical copies on storage elements, and are transferred transparently

to the user. However, there exist some limitations in the implementation due to technical hurdles, that will be pointed out.

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