

Chimera - a new, fast, extensible and Grid enabled namespace service

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After successfully deploying dCache over the last few years, the dCache team reevaluated the potential of using dCache for extremely huge and heavily used installations. We identified the filesystem namespace module as one of the components which would very likely need a redesign to cope with expected requirements in the medium term future.

Having presented the initial design of Chimera during CHEP05 we are now able to provide the first fully-fledged prototype implementation, working with existing dCache systems. In addition to an improved performance profile, Chimera provides a wide set of enhanced functionalities. Being fully database oriented, standard SQL queries may be used for administration and monitoring activities instead of being bound to non optimized file-system commands. Moreover, user customized metadata can be attached to files and directories and may be used in SQL queries as well. Although chimera is coming with an nfs2/3 interface and an optimized door to the dCache core, other access protocols, e.g. web access, can be easily adapted using the standard API. Talking strict JDBC allows to run chimera against any database providing the standard JDBC drivers. We have been positively tested Postgres, MySQL and Oracle.

Chimera has been designed and optimized for dCache interactions. Nevertheless Chimera is independent of the dCache software and may be used as filesystem namespace provider for other applications as well. To make this possible, all interactions from Chimera to external applications are realized as event callbacks and are with that freely customizable.

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