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ALLVIS, Uppsala Universitys official storage of scientific Data

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Excerpt from the university directors decision: “Propose how services for cost effective and secure, long term storage of scientific data are made available to scientists with the possibility to integrate, in a flexible manner, with local, national and international systems for storage of large data quantaties”.

With her decision in mind, project ALLVIS, Uppsala Universitys official storage of scientific Data, was started. Allvis is a wise dwarf in the nordic mythology but in the modern world it is an acronym: all visdom (eng. all wisdom). Here we gather our scientists findings for the good (and gain) of future generations.

As all of you, we have come to the conclusion that a CS3 solution is a must. I would like to present our design thoughts.

We will use ownCloud as middleware because of the flora of clients and its modularity; running on Linux adds possibilities to tie different forms of storage, DAS with suitable file systems or network based file systems like NFS or SMB. And the possibility to use various catalogues for authentication.

In our design the usage of External Storage is central. The External Storage feature is a good tool that gives us the opportunity to both segment storage and add other sources out of need or will to gather various resources under one umbrella. SMB is the main protocol. This widespread protocol with its richness gives us an instrument to achieve and apply granular access control and yet give the scientific community easy access.

Other important components of the design is the usage of Active Directory as the user catalogue, authentication source and the base for access groups for both ownCloud and file shares on SMB servers, Microsoft DFS (Distributed File System) to gather various SMB servers under a Global Name Space. This will, of course, enable an easy to remember point of origin for all file server resources. The same design principle applies to NFS; a gateway to gather various NFS exports.

But this design comes with an inherited cost and areas of concern and possible solutions will be briefed.

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