

グリッド協議会GGF8調査会
東京
2003年6月

Grid File System RG BoFⁱⁿ 東京

<http://phase.hpcc.jp/ggf/gfs-rg/>

建部修見

産業技術総合研究所グリッド研究センター

Several examples of large-scale (proprietary) file system technology

- Legion, Avaki
- Storage Resource Broker (SRB)
- Grid Datafarm
- EDG (w/ Replica Location Service)
- Farsite, OceanStore
- AFS, DFS, . . .

- It is time to investigate and explore a Grid file system through the application of **service oriented architecture**

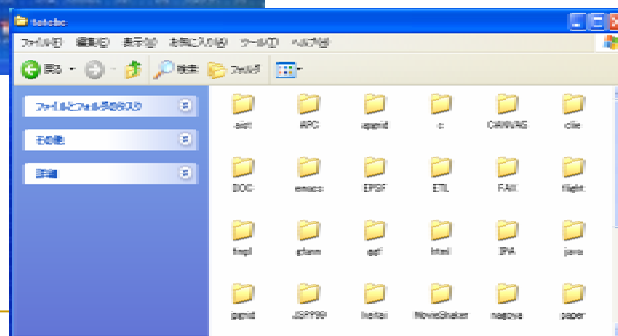
Relationship to grid services

- File management and access control issues
 - How to manage millions or billions of Grid Service Handles?
 - How to control access permission with various requirements?
 - Group readable and/or group writable with flexible group management for set of files
 - How to share the file management in a virtual organization?
- Consistency management issues
 - Consistent access control among services, e.g. replica location service, and GridFTP
 - A standard loophole to access and modify files using underlying standard services, e.g. GridFTP
- Security issues
 - Authentication, authorization, privacy, and integrity



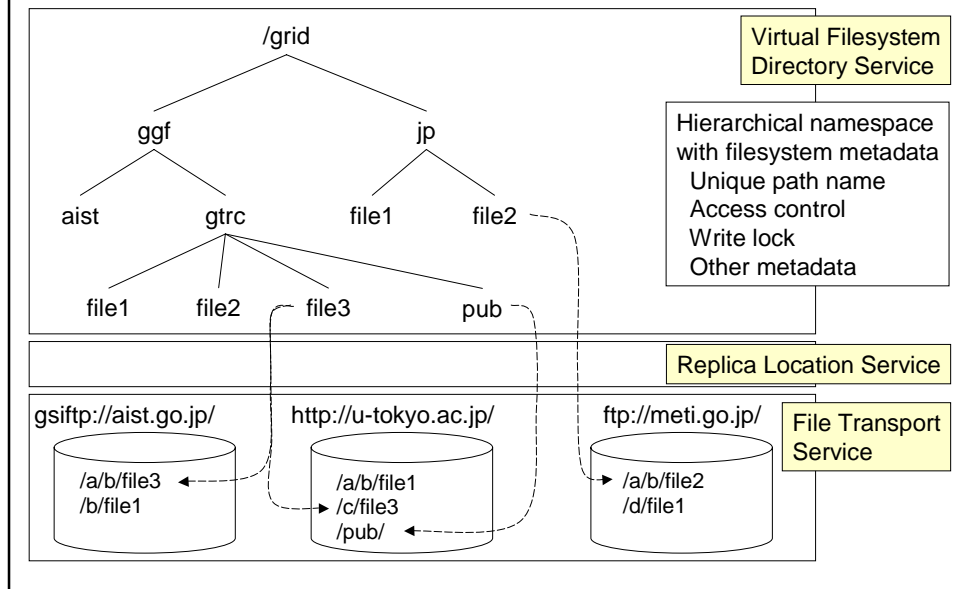
with a good search engine
(google style)

VS



(yahoo directory style)

Example: Reliable File System Services



Proposed Charter

- Grid File System Research Group explores issues related to file system data in grid computing environment.
- We are interested in the possibility of federating namespace of existing physical file system, and individual files, and managing files through the application of service oriented architecture for file system infrastructure and objects.
- The objective of the group is to provide a forum for discussing approaches to facilitate file sharing and to promote the use of common services provided by other working groups.

Proposed Charter (Cont'd)

- Initially, the proposed research group aims to identify the requirements and functionalities for Grid file systems. To achieve this goal, we undertake the following tasks:
 - Survey research projects and products related to the Grid and wide-area filesystems
 - Organize and document requirements of Grid filesystems from application's perspective

The 1-year milestone

- Jun 2003 GGF8
 - BOF
- Oct 2003 GGF9
 - First draft of a survey document
 - First draft of a requirement document
- Feb 2004 GGF10
 - Revised version of documents
 - Provide examples of service oriented file system federation
- Jun 2004 GGF11
 - Final version of documents will be submitted

Relationship to other GGF groups

- OREP-WG
- GridFTP-WG, DT-RG, GHPN-RG
- DAIS-WG
- OGSi-WG, OGSA-WG

The document

- Survey research projects and products related to the Grid and wide-area filesystems
 - Legion, Avaki, SRB(Regan Moore), Grid Datafarm, EDG(RLS)
 - Farsite, OceanStore
 - AFS, DFS, . . .
 - Distributed StorageTank (Leo Luan)
 - Slash Grid (Andrew Mcnab)
 - Description, filesystem metadata management, access control, features, further requirement
- Organize and document requirements of Grid filesystems from application's perspective
 - High-energy physics, Astronomic Observatory, Astronomic Data Analysis, Bio-informatics, . . .
 - Business apps
 - Jane Xu, EDG

Mailing list

- data-wg@grid-forum.org
 - Majordomo@grid-forum.org
 - subscribe data-wg

 - Mailing list of Grid File System RG
 - Available soon
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