

Data access and tools, system evolution

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Topics

- CNAF services, upgrade plan
- User tools: analysis, monitor
- Data availability
- Next production

CNAF services

- We are counting on the following service/machine for analysis, development and production tasks:
 - Under our control:
 - Frontend machine bbr-serv08
 - Production head node bbr-serv09
 - Under CNAF control
 - Gridftp server
 - Storage Resource Manager Frontend machine
 - Shared with other VO:
 - Logical File Catalog, WMS, VOMS server
- Storage available by front-end, production and gridftp machines:
 - gpfs_superb: FastSim data repo
 - gpfs_babar6: FullSim data repo and user space

Service overload

- Fast + Full analysis tasks insist on Front-end machine, storage system, consequently to BaBar home NFS server:
 - Limit reached on storage access load during production time
 - Increasing of process WCT and shell answers delay (ls: 40 sec)
 - Solution: add more storage server resources, front-end machines and NFS server
- Production tasks insist on production machine and SRM system:
 - ~2500 contemporary running jobs, ~400 contemporary stage outs results in jobs failures due to SRM overload
 - MySql and apache service works under them potentiality
- Off production data transfer tasks:
 - Load negligible

Arising requirements

- Analysis task at CNAF:
 - Data monitor for data selection, what else?
- Solution proposal:
 - Monitor service replica on separated front-end machine:
 - Master-slave Mysql DB
 - Open a replica of monitor service only
- Adding functionality:
 - Root file merging
 - Embedded quality check (correctness and data consistency)

CNAF upgrade plan

- We are using SL4 Virtual Machine and direct batch system submission, we should move to SL5 VM and Grid submission
 - Smooth moving plan:
 - Upgrade front-end machine to SL5 (asap, April)
 - VM SL54 activation and linking to superb queue (same day as above action)
 - Grey period:
 - LSF and Grid submission simultaneously available
 - GANGA will be used as it is its proper mission
 - Formation program: Wiki --> Docs --> seminars --> Grid school etc.

CNAF upgrade plan

- Account re organization:
 - BaBar and SuperB user accounts separation
 - VOs using Grid do not need home NFS exported on WN
 - The front end machine becomes a Grid User Interface
- TSM data backup: 10/20TB of tape “simply” allocable

Data availability

- Data have been replicated on sites where have been produced.
- Metadata have been registered into Logical File Catalog
 - Lcg-tools permit the transfer of files via Logical File Name reference (as in xrootd :))
 - Users can select data file set and simply use a (to be prepared) tool to perform the data transfer on desktop or on Sites Storage Elements
- Data driven model
 - The analysis happens where the data resides
 - Need a plan of analysis interests per group per site

Next production

- With manpower !! and allocated resources !!
- Obviously we need a production team with clear roles and duties
- Possible service and tool improvements:
 - SBK, adding data and/or start a new design
 - Python instead of bash in jobs script/GANGA plugin etc.
 - Re code everything adding reliability etc.
- Completion of VO Grid infrastructure integration
 - Monitor, Accounting, Ticketing, Service Availability
- Distributed FullSim production
- Introduce Mass Transfer service like FTS