

**Xrootd test farm
at Atlas Computing Facility at BNL.
“To Do” List**

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ATLAS



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Hardware

- Reconfiguration of the network connections to the switch to eliminate or reduce current bandwidth limitations.
 - Scalability tests with reconfigured network (Tadashi, Sergey)
- Estimate how much "bytes out" bandwidth is need for the farm for "typical" analysis scenarios.
 - Number of nodes used for typical Condor submission
 - Jobs per node
 - Typical job input rate (Athena/AODs ~2 GB/s ?)
- Set up redundant Xrootd redirectors, PROOF master nodes
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System Management and Security

- ♦ General Farm Management
 - ♦ Scripts for full farm xrootd/PROOF: "Start up/Shutdown/Restart". (done Ofer?)
 - ♦ Scripts for data movement to from Xrootd farm to NFS and dCache. (done? Sergey)
 - ♦ Local farm "catalog"
 - ♦ Web page? Web interface?
 - ♦ Scripts to delete datasets or selected files
- ♦ Security
 - ♦ Test ssh and certificate authentication. Select most appropriate method (convenience, security, etc)
 - ♦ PROOF client "conduit"
 - ♦ Off-site use
 - ♦ Firewall problems

Monitoring and Documentation

- Farm Monitoring.
 - Ganglia pages. (done. Jason)
 - Adapt SLAC monitoring package? (Ofer)
- Web page/TWIKI with general farm information, help, examples, tips, talks, links to Ganglia page, etc. (Kyle?)
- Think of appropriate mail list/hypernews. Have a separate one?
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- Farm usage model.
 - Open to all, open to selected people, open to group representatives, etc....
 - what is sustainable? What is manageable?
 - What is experience in other experiments (BaBar, Alice, CMS, etc) ?

Integration with Atlas DDM

- DDM
 - Integration with current (US?) Atlas distributed analysis model. Panda/pAthena/DQ2 (tadashi?)
 - data movement scenarios
 - Interaction with dCache at BNL
 - Tests with Xrootd door on dCache

Software and Analyses Tests

- ♦ Analysis Software Tests
 - ♦ PROOF analysis with TSelector, Analysis with libraries in PAR format. (Kyle?)
 - ♦ Examples for Tutorials
 - ♦ More analyses from different physics groups (Kyle?)
 - ♦ Heavy Ion program
 - ♦ datasets – currently mostly ntuples on dCache
 - ♦ Try optimization of dCache read ahead, etc. Different size here!
 - ♦ Mostly root based analyses, interactive and batch, try with PROOF (Mark Baker, Sergey?)
 - ♦ Try Scott's "AODs in root" with PROOF (Scott ?)
 - ♦ Analyses with several "post-AOD" root based formats(DPD, etc) using PROOF
- ♦ Proof scalability tests
 - ♦ How many slaves per box (3, 4, 5...?) (Sergey)
 - ♦ How many simultaneous users can work on the farm? (Kyle?)

T3 aspects

- T3 Aspect of Xrootd/PROOF
 - Use cases
 - Usage examples
 - management tools
 - Security issues and recipes
 - Hardware recommendations