



Tier 0 + Tier 1s

- **All:**
 - MSS metrics
 - Need instant real-time monitoring of throughput (and per day overview) and to view transfers per experiment (WAN in/out; LAN – WNs)
 - Tools for site and grid
- **NL-T1:**
 - Communication & SIRs
 - Lack of tape drives (now installed)
 - DMF tuning needed?
 - Unexplained low performance
 - LAN b/w to WN too small
 - Shared SW area problems
 - Repeat tests
- **ASGC:**
 - Castor version?
 - Job scheduling T2 v T1; ATLAS v CMS
 - Low efficiency for CMS reprocessing jobs
 - Repeat tests
- **FZK:**
 - Improve communication to world
 - SAN issues
 - Shared SW area problems
 - SRM server overload
 - dcap access problems
 - Too many lcg-cp → overload gridftp
 - Repeat tests
- **NDGF:**
 - No MSS performance monitoring
 - Low throughput
 - Analysis jobs overloaded network
 - No Panda pre-staging
 - What is action to improve?
- **CNAF:**
 - Shared SW area problems
- **Site visits** – planned for FZK + NL-T1



Tier 2s

- Shared SW areas affect CPU efficiencies in some sites (also T1)
- ATLAS efficiencies different between WMS and PANDA
 - Likely due to different data access methods
- Data transfer timeouts (what? → see analysis summary)
- Intra-VO fairshares → how to manage? (→ GDB?)
- VO communications
 - Need for VO-independent channel to reach all T2 admins
- Network infrastructure not good enough for data rates



Data management

- **FTS**
 - Timeouts for large files
 - Increase the number of concurrent jobs to increase bandwidth
 - Throttle/manage each VO bandwidth?
 - Deploy FTS 2.2
- **LFC:**
 - LHCb/Coral issues (Coral problem); Should LHCb use distributed LFCs (not essential if Coral problem fixed).
 - Deploy bulk methods (new additions)
- **Lcg-util – hangs at French sites (only?)**
- **dcap access for LHCb (root issue?)**
- **dCache:**
 - Need a clear strategy for Chimera (and risk analysis)
 - Explain “golden” release v what we have (and risk analysis)
 - Site decisions, but must be based on understanding of risks
- **Data transfer timeouts**
 - dcap/rfio problems at high (analysis) load
 - 90% of (analysis) job failures are read failures
 - Are these the same issue? (what? SRM?)
- **Better data access strategies???**
 - Pre-stage vs copy locally vs Posix-io
 - General investigation of data access methods and problems



Other services

- **WMS:**
 - Stability/scalability (DNS load balancing, multi-core, ...)
 - WMS 3.2 to deploy? But critical bug (for at least LHCb)
- **LCG-CE:**
 - Timeouts
 - Zombies
 - Globus-gma (>32k jobs) – workaround to clean up
- **MyProxy – single pof**
- **Glexec/SCAS – need experience**
- **CE:**
 - Matching requirements to WN properties (blah integration with batch systems)
 - CREAM bugs to be fixed
- **BDII:**
 - V5 more robust? Fix tools that cannot handle lists
- **APEL:**
 - Tomcat problems
 - R-GMA problems (replace with MSG)
- **Shared sw areas (came up many times)**
 - Problems at NL-T1, FZK, CNAF + Tier 2s
 - ALICE use of BitTorrent ? Is this a solution?
- **Monitoring:**
 - ATLAS need more monitoring for analysis jobs (re-use CMS dashboard work?)



Common themes ...

- Data access strategies:
 - Investigations under way .. ATLAS, CMS, Massimo, Maarten, DM group
 - ...
- Shared software areas:
 - ???
- dCache strategies and risks
- Monitoring:
 - More real time on MSS transfers
 - MSS metrics
 - Improve dashboards – ATLAS vs CMS