



Workshop Summary

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Tier 0 preps

- Database Service extension going according to schedule
 - Resource prioritization and extension planning needs experiment involvement (and real deployment experience)
 - Significant lead time for h/w orders - need experiment / project requests early!
- Also Streams and Frontier setups proceeding well
 - New downstream capture proposal under test - seems promising to avoid some couplings observed in the test bed during site problems
- Need production setup for Database Monitoring (Oracle Grid Control 10gR2)
 - Tier 1s may use another local grid control instance
 - Two agents reporting into common 3D and local Grid Control



Tier 1 status

- Sites seem on schedule for a service start end of March
 - Some problems with Oracle Clusters technology encountered and resolved
 - Problems due to older / less redundant h/w -> CNAF revised h/w choice
 - DBA meetings should help to spread the knowledge in the community
 - Wiki docs for Grid Control(Gordon), DB/ASM config (Luca)
- Need to **involve remaining Tier 1 sites now**
 - Will (re-)contact PIC, NIKHEF, NSG, TRIUMF to follow workshops, email and meetings



Outcome of Site Discussion

- Storage setup - RAID 5 or 10
 - Depends on quality of SAN storage
 - Cheaper setups (as CERN) prefer RAID 10 for performance and redundancy across single disk-array (via ASM)
- Sites do need support contract and direct meta-link access
 - Patchsets and Oracle s/w should be planned in 3D meetings
 - But obtained directly from Oracle
- CERN installation kits not much used outside
 - Rather document configuration items and example scripts on 3D Wiki
- DBA meeting at RAL during second half of March
 - Involve "new" tier 1 sites (NIKHEF and PIC interested)



More Site Discussion

- SQUID support done at several sites by admin team
- Meeting Structure
 - Alternating Focus (DBA and Experiment tests)
 - Few DBAs participating SC4 meetings
 - Propose regular reports between SC4 and 3D meetings
- Document active server and patch set configuration
 - Eg via Grid Control
- Document supported Oracle client versions
- Assume 32bit Oracle Server until September
 - 64bit client supported by LCG AA software
 - Consistent client versions for PERL/Python still an issue -> LGC AA?



Service Issues

- Oracle Issues
 - X.509(proxy) certificates - will they be supported by Oracle?
 - s/w and support licenses for Tier 1
 - instant client distribution within LCG
 - With commercial Oracle contact (IT-DES group) and IT license officer
- Support Issues
 - Application Server support
 - During initial phase (March-Sept) CMS will support tomcat/frontier/squid setup
 - Will discuss other experiments requirements



Experiment Applications

- Conditions - Driving the service size at T0 and T1
- Framework integration and DB workload generators exist
 - successfully used for various COOL and POOL/FroNTier tests
 - Performance and replication tests (T0→T1) look promising
- Conditions: Online → Offline replication only starting now
 - May need additional emphasis/resources to avoid late surprises
 - CMS and ATLAS have test plans and online setup
- Some progress in defining concrete conditions data models
 - Still quite some uncertainty about volumes, numbers of clients



Event TAGs

- Actively followed currently only by ATLAS
- Could impact significantly on service volume and load !
- Need at least back-of-envelope estimates for expected scale
 - Relevant also for backup / recovery requirements
- Replication test for Event TAGs needs to be scheduled



Summary

- Setup of production database services is proceeding well at Tier 0 and Tier 1 sites
 - End of March as start of service date tight but seems achievable for most sites
- Application performance tests with experiment predicted workload progressing
 - Connection between service DBA and developers working
- Replication technology tests for conditions data promising with streams and frontier
 - Streams: need to show deployment scaling to more sites
 - Frontier: need to take realistic cached / un-cached policy into account
- Concrete conditions data models still being defined
 - Main source of uncertainty for service size
 - Conditions deployment dates seem may not match service schedule



Proposed Milestones / Schedules

- Project Documentation
 - 3D Replication Technology Writeup - May '06
 - Test responsible (based on individual test docs)
 - Database Service Definition Writeup - June '06
 - Site responsible (based on LCG TDR document)
 - Backup/Recovery Strategy Writeup - August '06
- CORAL Database Lookup Service (LFC based) - August '06
- Conditions (Tags) Deployment Plan (dates from experiment plans)
 - Concrete Conditions Data Models for main detectors defined (eg the detectors accounting for 80% in volume/access)
 - Conditions deployed at Tier 1s
 - Conditions replicated between Online and Offline
- Propose to organise discussion with experiment responsables