



ALICE



ALICE USA Computing Project Service Upgrades

ALICE-USA Resource Review

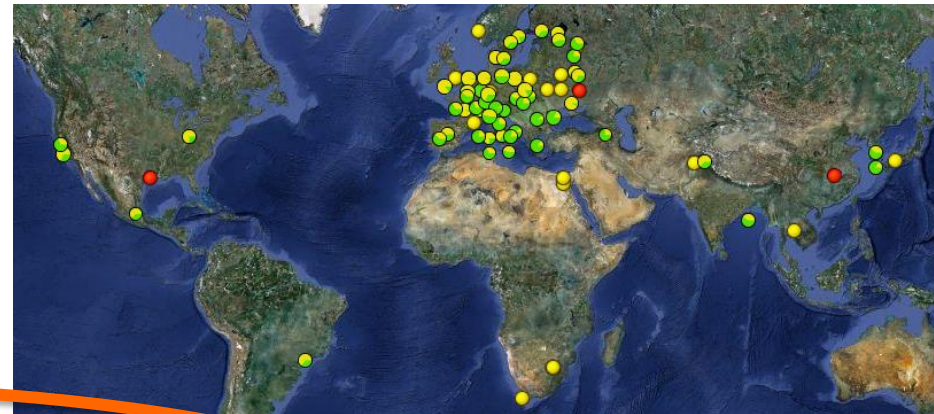
Apr 7-8, 2014

- Goal: supply cost-effective Grid-enabled computing resources to ALICE
 - Fulfill MoU-based ALICE USA obligations for computing & storage resources to ALICE
 - Based on ALICE USA participation at about 7-8% of ALICE

- 2009 Project Proposal

- Operate facilities at two DOE labs
 - NERSC/PDSF at LBNL
 - Livermore Computing (LC) at LLNL
 - 3-year procurement plan
- LBNL as the host lab

➤ Fully operational since Summer 2010



- Operations in “Project Execution & Acquisition Plan”: PEAP
 - Organization structure
 - Procurement strategy
 - Deliverables & Milestones

Annual updates include new procurements & milestones

FY13 Q4 → Summer 2013

- OS Upgrade → • Upgrade PDSF OS to SL6.x
- CVMFS → • Test deployment of CVMFS for ALICE at NERSC/PDSF
- Evaluate model for CVMFS deployment at LLNL/LC
- Prep XROOTD → • Prepare for XROOTD upgrade to version 4.x at NERSC/PDSF
- Submit NERSC ERCAP request for HPSS resources as needed for testing XROOT/HPSS interface

FY14 Q1 → Fall 2013

- Evaluate disk utilization and install remaining FY13 disk capacity as needed
- CVMFS → • Switch to using CVMFS in production at PDSF
- Evaluate model and test CVMFS deployment at LLNL/LC
- WLCG-CRRB meeting and finalize RRB-2014 pledges
- Postponed → • Upgrade LBL::SE XROOTD service
 - New redirector host
 - OS SL6.x on redirector and all data servers
 - Upgrade services to XROOTD 4.x

FY14 Q2 → Winter 2014

CVMFS, done Nov →

This Week →

- Switch to using CVMFS in production at LLNL/LC
- Hold 3rd annual CERN-US ALICE team meeting in US
 - Evaluate CVMFS operations
 - At ALICE-USA sites
 - In support of opportunistic use of OSG and other resources
 - Use disk utilization statistics to establish FY14 deployment schedule
 - Evaluate US MonaLisa collector
 - Evaluate XROOTD upgrade at LLNL/LC under replenishment schedule
 - Review opportunistic use of OSG resources
- Evaluate and expand engagement with NP OSG groups as needed

FY14 Q3 → Spring 2014

Mar. @ Tsukuba →

- Attend April CRRB meeting to receive update on ALICE requirements
- Participate in the annual ALICE T1/T2 workshop
- Continue staged FY14 disk deployment as needed
- Develop FY15 Update to PEAP

Develop Proposal →

- LLNL/LC resource replenishment schedule
- NERSC/PDSF move to LBNL site
- NERSC/PDSF Tier 1 decision

- **LHCONE**
 - We initially requested implementation @ NERSC in July 2013
 - Reply → separate WAN from local network via dual-homed data servers
- **Dual homed data servers at NERSC/PDSF**
 - Model is worked out → Iwona's talk
 - All normal access via WAN interface
 - Routing instructions on local cluster to access local interface
 - Auxiliary benefit: independent measures of local vs WAN traffic
 - Allows us to request network infrastructure best suited for needs
 - e.g. 100Gb to ESnet achievable with modest cost targeted solutions
- **IPv6**
 - Ready at NERSC border
 - LLNL/LC → TBD

- OSG CEMon & GIP to fill BDII
 - Allows SAM tests from CERN
 - Will now reconsider due to MonaLisa approach & ALICE only tests CREAM CE
 - Will continue to rely on RSV
- XRootD upgrade
 - XRootD 4.x ... when?
- Test VO-box for direct submission to UGE &/or SLURM
 - Simplifies model & debugging
 - In use at LLNL/LC for submission to PBS
 - Will still use OSG Gratia to report all “alicesgm” jobs
 - Likely model for use at ORNL CADES
- gLExec
 - Allows direct mapping from anonymous pilot to real user
 - May become a WLCG requirement
 - Will investigate use in logging mode

- Additional Hardware or VM on planned HW?
 - VO Box for AliEn Services
 - OSG Services → Gratia reporting
- FTE Effort discussion
 - LLNL/LC Admin & AliEn Grid manager → Project costs 0.2 FTE
 - Backup support from LLNL/LC
 - LBNL AliEn Grid manager & OSG Representative → Project costs 0.25 FTE
 - Admin support from local LBNL groups (NSD & NERSC)
 - LBNL project lead → Project costs 0.5 FTE