

# Status Report for June 15, 2009

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## Summary of progress

Work activity; whether it reached associated milestones.

### NCSA

#### Bill (submitted on 6/15/2009)

- Data mapping in Harness: Wrote basic Python interfaces
- Security plan: Released major revision that for the first time has no blank sections; includes Jeff's edits & requests
- Automated build system: functioning normally
- Parasoft (automated V&V): supporting Robyn on tracer.ncsa.uiuc.edu
- VMs for developers (2nd edition): waiting for Ray to put a stack on them

#### David (submitted on 6/22/2009)

- Writing/coordinating/editing DC3a report
- Agenda-wrangled and attended DC3a Post-Mortem
- Upgrading Trac

#### Greg (submitted on 6/18/2009)

- Developed classes/components needed for launching pipelines on the NCSA Intel 64 Abe cluster
  - ◆ Wrote `AbePipelineManager.py` of `ctrl_orca` for
    - ◇ deploying required files -- nodelist template, policy files, setup script -- to the remote platform via `globus-url-copy`
    - ◇ creating Condor job description file and performing associated job submission
  - ◆ Wrote `launchPipelineAbe.sh` of `pex_harness` for customized harness execution
    - ◇ sets up environment as first step
    - ◇ creates dynamic LSST node list based on template from `ctrl_orca` plus PBS batch system generated node list
  - ◆ Executed test single stage pipelines, performing sanity checks with a larger number of nodes. Test pipelines across 20 nodes are successful, show no issues.

#### Steve (submitted on 6/15/2009)

Steve was on vacation for the week of 6/8/09 - 6/13/09

- Worked with Greg on resolving issue with ActiveMQ event broker where it disconnected during runs. This appears to be an issue with the broker itself, and a bug report has been filed. We have a possible work around for this issue, but implementing is on hold while runs are being completed.
- Documented the `ctrl_evmon` code
- Wrote the orchestration section for the report.

## Ray (submitted on 6/18/2009)

- Ran DC3a production runs; interspersed with continued debugging; recent results at [wiki:DC3/DC3aProductionRuns](#)
- Working with Daues, prepped for runs on Abe (building stack; staging data)
- Conducted detailed assessment of EUPS changes
- DC3b planning via Middleware telecons
- general middleware/infrastructure management
- Travel:
  - ◆ DC3a Post-Mortem (Tucson, May 17-21)
  - ◆ IVOA Interop (Strasbourg, May 23-30)
  - ◆ Vacation (June 8-12)

## LSST Corporation

### Robyn (submitted on 6/12/2009)

Robyn took two weeks leave during period of 5/12/2009 - 6/15/2009. Primary focus during the other 2 weeks:

- satisfying TCT requirement to develop list of 3rd party software usage, created the [DM/ThirdPartySoftware](#) table.
- satisfying TCT requirement to prepare LSST Legal Notices for DM software licensing and copyrighting, created [draft LSST Legal Notice](#) and [draft LSST Copyright](#).
- started reviewing use of Parasoft C++Test for inclusion in LSST Build procedure.

## Database Group

### K-T (submitted on 6/18/2009)

2008-05-20 to 2009-06-17:

Major accomplishments:

- Wrote up Data Access breakout from DC3b meeting.
- Contributed to Build/Packaging? and Middleware breakout writeups.
- Wrote provenance portion of DC3a report.
- Drafted a proposal for Stage interfaces.
- Wrote up and discussed redesign proposal for persistence framework.
- Contributed to eups update checklist/proposal.
- Researched hardware parameters for production database sizing.
- Discussed SDS/DM interface with Mike Huffer.
- Discussed scalable database implementation for PDR/DC3b.
- [#810](#): Discussed improving log messages and defined scope.
- Discussed provenance for DC3b and defined scope.
- Discussed image access for DC3b.
- Pinned down problem with serializing denormalized floats on Mac OS.
- [#835](#): Lots of investigation, no firm conclusion yet.
- Investigated pipeline failures from missing tables.

Minor accomplishments:

Ray (submitted on 6/18/2009)

- [#818](#): Reported and did some investigation.
- [#793](#): Ruled out persistence as a cause.
- [#832](#): Did some investigation.
- [#834](#): Clarified NULL vs. NaN.
- [#807](#): Closed as non-repeatable.
- [#822](#): Discussed policy dictionaries.
- Added initial code to generate subchunks to qserv/worker prototype.
- Helped Andy Becker with running pipelines.
- Helped clarify some photo-z schema issues.
- Commented on data mapping document.
- Discussed how to avoid event broker collisions.

### **Andy H (submitted on 6/xx/2009)**

### **Serge (submitted on 6/21/2009)**

- Investigated AP failures arising from missing tables
- Fixes to association pipeline to avoid repeated failures after a timed out visit
- Discussed image access and scalable query architecture for DC3b

### **Daniel (submitted on 6/15/2009)**

- Attended DC3b meeting in Tucson
- Discussed Gearman/drizzle possibilities for handling parallel queries
- Scalable queries:
  - ◆ More testing with qserv framework
  - ◆ worked out user-level permission scheme
  - ◆ fixed query to include placeholder for subchunk number substitution
  - ◆ workaround lsst stack installation without proxy or outside network access.
- Scidb:
  - ◆ Worked on udf api spec, convergence of udf api spec as operator.
  - ◆ Re-implemented more pieces of udf cooking algorithm using new api plus test harness.

### **Jacek (submitted on 6/12/2009)**

- lots of meetings
  - ◆ attended DC3b planning meeting in Tucson
    - ◇ including preparing, leading Data Products breakout and writing notes
  - ◆ attended OCS-DM Interfaces meeting in Tucson
  - ◆ attended DC3b planning meeting in Pasadena
    - ◇ including preparing scalable arch plan
  - ◆ attended SDQA meeting in Pasadena
    - ◇ including preparing db usecases
  - ◆ meeting with Drizzle/Gearman? developers
  - ◆ meeting with Andy Lawrence, discussing UK involvement
  - ◆ organized several DataAccWG telecons
  - ◆ progress with io estimates / infrastructure telecon
- scalability tests: feasibility analysis
- DC3a report - wrote my sections
- db authorization related troubleshooting

### **K-T (submitted on 6/18/2009)**

- XLDB
  - ◆ invites (compiling list, email correspondence)
  - ◆ slac paperwork related to international travel (for all going from slac)
- SciDB
  - ◆ redesigned [?scidb.org](http://?scidb.org) released!
    - ◇ includes lots of last minute QA and cleanup
  - ◆ gave SciDB seminar at SDSC
  - ◆ meeting with Paul B - new developer
  - ◆ demo telecons

## Major Accomplishments

Significant breakthroughs, issues resolved.

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### Ray (submitted on 6/18/2009)

- Large production runs reported at [wiki:DC3/DC3aProductionRuns](http://wiki:DC3/DC3aProductionRuns) run without major failures and show consistent performance results.

## Objectives for the Next Period

What you expect to accomplish.

### NCSA

#### Ray (submitted on 6/18/2009)

- DC3b planning
- Large scale production runs on Abe covering entire focal plane

### LSSTC

Robyn Allsman

During my summer part-time period, I will be working on the following, in the order shown:

- complete preparation of the LSST copyright/license for inclusion in the LSST DM Legal Notices directory and prepare Copyright notice to be inserted in each source file.
- continue work on Parasoft Coding Standards integration.

## Database Group

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# **Problems Encountered and Solutions Being Pursued**

Budget or schedule variance, technical issues, management issues.

**NCSA**

**LSSTC**

**Database Group**