Software Coordination Committee

20 Oct 1999

"Guide and oversee the scientific software development and testing. . . in both the LIGO Laboratory and the LSC."

Barry Barish
Rainer Weiss

Stuart Anderson
Sam Finn
Maria Papa
Tom Prince
Alan Wiseman

URL: google.com "LLAL"

LIGO-G000063-00-D

Agenda

- Complete the software standard.
- Coordinate the LIGO/LSC software development.
- Create a controlled software repository.
- Establish contributed code is up to spec.
- Organize mock data challenges.
- Operate as the LIGO/LSC software control board.
- Establish LSC data analysis proposal guidelines.

Mock Data Challenges

Purpose: Acceptance tests for the complete LIGO data analysis system.

Paradigm: Attempt when a sub-system is expected to pass but try to "crash" it.

Management: LSC members to volunteer as individual MDC coordinators.

Responsibility: Coordinate activity.

- Finalize MDC specification/checklist.
- Recruit team (including Lab programmers).
- schedule/advertise MDC run.
- write/present report (checklist).

Motivation: Not sufficient to write analysis algorithms for LIGO-I, must prove it works in the context of LDAS software and hardware.

Mock Data Challenges

1. Data Conditioning

   - Coordinator: Sam Finn
   - Date: July 2000
   - Data: raw frames $\rightarrow$ conditioned data/metadata.
   - Goal: Test ability to produce data set for parallel processing.

2. Parallel Filtering

   - Coordinator: TBD
   - Date: December 2000
   - Data: conditioned data $\rightarrow$ events.
   - Goal: Test functionality of MPI analysis (not science analysis).

3. Archive

   - Coordinator: Stuart Anderson
   - Date: TBD
   - Data: On-site real-time frames $\rightarrow$ off-site archival retrieval.
   - Goal: Identify archive interface(s) and demonstrate sustained bandwidth and reliability requirements.

4. Database

   - Coordinator: TBD
   - Date: September 2000
   - Data: GDS triggers and LDAS events $\leftrightarrow$ LDAS database.
   - Goal: Demonstrate performance and correctness of tables/interface.

5. Milestone: LDAS Full System on-site

   - Date: June 2001
   - Goal: LDAS ready for LAL.

6. Inchpebbles: Science Analysis

   - Coordinator: TBD
   - Date: December 2000–December 2001
   - Data: conditioned data $\rightarrow$ science events for each search type, e.g., binary inspiral, periodic sources, . . .
   - Goal: Test separate components of science analysis: LAL ready for LDAS.

7. Integrated Science Analysis: Single IFO

   - Coordinator: TBD
   - Date: January 2002
   - Data: Conditioned data + injected signals $\rightarrow$ science events.
   - Goal: Test of pipeline science analysis.

8. Integrated Science Analysis: Multiple IFO

- Coordinator: TBD
- Date: April 2002
- Data: Multiple conditioned data streams + injected signals $\rightarrow$ science events.
- Goal: Test of coherent multiple-IFO science analysis.

9. Archive Science Analysis

- Coordinator: TBD
- Date: June 2002
- Data: Conditioned data from archive $\rightarrow$ science events.
- Goal: Test long time-line science analysis.

Conclusion

- "We are no more disfunctional than the average family." (anonymous)
- The LSC data analysis proposal guidelines have been approved.
- The LAL specification is under active development.
- Initial MDC specifications are being written.
- MDC Coordinators will be encouraged to *volunteer*.

Future Work

Fully explore all aspects of the initial charter:

". . . committee as an interim step. . . "

". . . finite life. . . "

Note 1, Linda Turner, 05/09/00 09:35:25 AM
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