LSC Computing Committee Report

Albert Lazzarini
LSC Meeting
21 March 2002
Livingston, LA

LSC Computing Committee

- **Formed December 2001 by Weiss, Barish**

- Provide guidance, oversight on a number of aspects of computing within the LSC
  - » Allocate resource and usage
  - » Coordinate deployment of new hardware, software
  - » Identify, develop new programmatic computing initiatives for LSC
  - » Develop LSC plans for grid computing

LIGO-G020070-00-E

LSC Computing Committee

- Membership composed of representatives from LIGO Laboratory, the LSC Tier 2 Centers, and users

  » W. Anderson (UTB, user)

  » J. K. Blackburn (LIGO)

  » P. Brady (UWM, Tier 2 Center representative)

  » L. S. Finn (PSU, Tier 2 Center representative)

  » A. Lazzarini (LIGO, Chair)

  » E. Katsavounidis (LIGO)

  » T. Nash (FNAL, user)

  » A. Wiseman (UWM, LSC Software Coordinator)

LSC Computing Committee

- Process:
  - » Biweekly meetings
  - » Agenda, minutes
  - » Face-to-face meetings
  - » Reports to collaboration leadership
    - – LIGO Director
    - – LSC Spokesman, LSC Executive Committee
  - » Home page:

    http://www.ligo.caltech.edu/~lazz/LSC_Computing

LSC Computing Committee

- ## Progress to date:
  - » Meeting at FNAL 02 March 2002

    Identified key issues that need to be addressed, set priorities
    - – Develop a new MOU attachment for LSC institutions with *significant* computing resources
    - – Develop methods, protocols for secure access to data, publishing of data catalogs for LIGO data
      - • Exploit work of GriPhyN R&D
    - – Develop a method to allocate access, utilization of available resources
    - – Identify opportunities, develop initiatives to obtain new LSC resources
      - • Promote team-formation within LSC

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LSC Computing Committee

- Progress to date:
  - » Developed an inventory of existing, planned LSC computing resources: http://www.ligo.caltech.edu/~lazz/LSC_Computing/LSC_inventory.pdf

  - » Developed a process to allocate use of LSC computing resources
    - – Draft memo being circulated for approval, discussion by LSC Executive Committee

  - » Developed a draft resource usage model (see next slide)

  - » In process of developing outline for a new MOU attachment for LSC institutions with *shareable* computing resources

  - » *Identified need for additional FTE support for Tier 1, 2 resources*

LIGO and LSC Computing Resources Serve Multiple Uses

Updated 2002.03.01 — Resource Usage Model for LSC Comptuing

#	Function	DMT	CIT-Dev (LDAS)	CIT-Test (LDAS)	CIT-Production (LDAS)	LHO (LDAS)	LLO (LDAS)	MIT (LDAS)	PSU Tier II, iVDGL	UWM Tier II, iVDGL	UTB Tier III	USC/ISI
1	LDAS Software Development		Priority 1 Color	Priority 2 Color				Priority 3 Color				
2	LDAS Integration & Tests		■ (red)	■ (red)					■ (cyan)	■ (cyan)	■ (cyan)	
3	LDAS CVS Software Distribution		Primary Site	Available Mirror Site	Available Mirror Site	Available Mirror Site	Available Mirror Site	Available Mirror Site				
4	LAL Software Development							■ (red)	■ (red)	■ (red)	■ (red)	
5	LAL Scientific Validation			■ (cyan)				■ (red)	■ (red)	■ (red)	■ (red)	
6	LAL integration & Test Validation		■ (red)	■ (cyan)				■ (red)	■ (red)	■ (red)	■ (red)	
7	LAL CVS Software Distribution		Sencondary Mirror Site						Sencondary Mirror Site	Primary Site	Available Mirror Site	
8	Production: Level 1 Data					■ (red)	■ (red)					
9	Archive/Distribute Level 1 Data				■ (red)							
10	Production: Level 2 Data				■ (red)	■ (cyan)	■ (cyan)					
11	Archive/Distribute Level 2 Data				■ (red)			Subset of Level 2	Subset of Level 2	Subset of Level 2		
12	Production: Level 3 Data				■ (red)	■ (cyan)	■ (cyan)		■ (red)			
13	Archive/Distribute Level 3 Data				■ (red)	■ (red)	■ (red)	■ (red)	■ (red)			
14	On-site Searches					■ (red)	■ (red)	■ (red)				
15	Off-site Searches				■ (red)	■ (green)	■ (green)	■ (red)	■ (red)	■ (red)	■ (red)	
16	Multiple Detector Analysis				■ (red)			■ (red)	■ (red)	■ (red)	■ (red)	
17	Monte Carlo Runs				■ (cyan)			■ (red)	■ (red)	■ (red)	■ (red)	
18	Detector Characterization	■ (red)						■ (red)	■ (red)	■ (red)	■ (red)	
19	Grid SW Development		■ (green)	■ (green)					■ (red)	■ (red)	■ (red)	■ (red)
20	Grid SW Integration & Testing		■ (green)	■ (green)					■ (red)	■ (red)	■ (red)	■ (red)
21	Numerical GR & Source Simulations											
22	Hardware Simulations			General Computing Resources within LIGO								

Column groups: **LIGO Laboratory** (DMT, CIT-Dev, CIT-Test, CIT-Production, LHO, LLO, MIT); **LSC Institutions** (PSU Tier II iVDGL, UWM Tier II iVDGL, UTB Tier III); **Other Grid Collaborators** (USC/ISI)

Row section labels:
- Rows 1–7: Scientific & infrastructure Software Development
- Rows 8–13: Data Archival & Reducttion
- Rows 14–18: Data Analysis
- Rows 19–20: Grid R&D
- Rows 21–22: Simulations

Priority Legend:
- Priority 1 — red
- Priority 2 — cyan
- Priority 3 — green