LSC Six-Month Progress Report

LIGO-M000115-00-M

Organization Caltech Center for Advanced Computing Research (CACR)

Report Date 02/15/2000

Item - Task 8-a

Roy Williams:
1) Xlook browser:
Implementation and upgrading of a component-based client-side browser for LIGO_LW files, using the IBM XML parser, Java Swing, and the KL Group components for chart and table visualization (www.cacr.caltech.edu/XSIL).

1) Version 3 released Jan 00, extensions include
-- Matlab interaction,
-- GPS time integration,
-- allowing null values in tables,
-- numerous improvements in robustness.

2) Beam-tube bakeout data system (with W. Althouse):
-- Unified LHO and LLO data archives
-- Simplified and streamlined the data ingestion pipeline
-- Created tutorial for operators at LLO and LHO

3) LIGO data portal (with P. Shawhan, W. Majid)
-- Designed and specified web-based portal to LIGO data analysis system
-- Using Tcl-based scripts to access metadata database
-- Service and cache layers on HPSS system
-- Integration with existing tools, JDClient, NDS, Calibration database.

Item - Task 8-b

Roy Williams:
1) XSIL format:
-- Extended the Array class to TimeSeries by adding start and end times.
-- Specified the extension of generic TimeSeries to LIGO-specific ADCchannel.
-- Specified XSIL extensions for events and triggers.

2) Worked with LIGO personnel to optimize database schema for LIGO metadata (with P. Shawhan).

Item - Task 8-f

Roy Williams:
1) Worked on Griphyn proposal to NSF (with A. Lazzarini, T. Prince):
-- Proposing distributed data-computing infrastructure for LIGO-II
-- With Cern, Virtual Observatory
-- With CS infrastructure projects (Globus, Condor, SRB)

Item - Task 8-g

A block account was set up for LIGO on the HP Exemplar and Beowulf cluster. LSC members were provided accounts under the block grant.

Stuart Anderson:

Item - Task 8-h

Starting in Oct 1999 LIGO began archiving all trend data and 1% of the full bandwidth data over the Internet from the remote observatories into the CACR HPSS archive. This activity serves the dual purpose of archiving potentially useful long-term environmental monitoring data as well as testing the day-to-day availability of HPSS. A table describing the current archive may be found at, http://www.srl.caltech.edu/personnel/sba/ligo/hpss/index.html with detailed growth plots hyper-linked, e.g., the total size at, http://www.srl.caltech.edu/personnel/sba/ligo/hpss/frame_archive.gif

In addition, during Sep 16 and Oct 5, 0.9TB of data from the Caltech 40-m IFO where archived in realtime over the high speed ATM connection between LIGO and CACR at Caltech. This successfully demonstrated the availability of HPSS on week timescales at moderate data rates where the run times where determined by scientific considerations not pre-arranged mock data runs, i.e., the 40-m was run in coincidence with the TAMA IFO in Japan.