Other Utilities Breakout Session
June 20, 2002

Attendees: David Band, Sandhia Bansal, Jerry Bonnell, Jim Chiang, Richard Dubois, Berrie Giebels, Masaharu Hirayama, Heather Kelly, Francesco Longo, Sean Robinson, Gino Tosti

U1 Event Data Extractor

Major Decision:
Jim Chiang suggested and the majority agreed to split this tool into two distinct tools: U1 now refers to a tool that extracts data exclusively from the database. U9 will be the tool that handles selections within an existing FITS file.

Existing Software:
U9 could be very similar to the existing fselect utility available in the FTOOLS.

Open Issues:
We did not make any decisions concerning what coordinate systems to support. However, the point was made that internally, we can convert from any coordinate system to the primary system. A set of utilities similar to what is available in SkyUtil, i.e. coordinate system conversion would be useful.
The question of returning 1 million events was discussed. Transferring such a large file would prevent us from meeting the performance requirements of < 10% of the time taken by the actual query. Perhaps the performance requirements can be phrased such that very large file transfers are not included.

People Power:
Jim Chiang and Heather Kelly indicated interest in pursuing this topic further.

Highlights of the discussion included:
Many questions concerning how to access data from other databases for cuts, particularly calibration and housekeeping data. It was suggested that one could determine the time ranges desired using the ancillary data such as calibration - then access the photon data using those time ranges as part of the cut. Others wondered if that was indeed an acceptable solution.

Is it really necessary to truly generate files for each intermediate step? Could that data just reside in memory and be written out on request?

U3 Exposure Calculator

Fortunately, Seth Digel strolled into the meeting, looking for refreshments. Seth provided a summary of a potential solution for the exposure calculation, where the Exposure Calculator covered by U3 could be a "LiveTime Accumulator". Such a decision would simplify this tool and modify its requirements, since the actual exposure would be calculated on the fly using the zenith angle and effective area - removing the requirement for this tool to utilize CALDB. See Seth's presentation from the plenary session, concerning exposure calculations:
http://www-glast.slac.stanford.edu/ScienceTools/workshops/june02/slides/Digel_exposure.pdf

People Power:
David Band suggested that a sub-committee be formed to further the consider the options. The following people volunteered: David Band, Jim Chiang, Seth Digel, Yasushi Ikebe, Pat Nolen, Sean Robinson

U7 Source Model Definition Tool

David Band provided an overview of this tool. Most important aspect to consider is the representation of the sky. A file with what format? How to represent regions on the sky?

We discussed the current and future capabilities of the method for specifying sources used with FluxSvc in Gleam. Some questions came up concerning time varying sources - right now this would be specified at run-time. There is interest in specifying source parameters on the fly. How would one specify arbitrary shapes? How hard is it to add new sources? Sean stated that the source library is indeed extensible. In some cases, new code may need to be written, but it is possible.

Open Issues:
We only brushed the surface as far as specifying time dependencies of source fluxes.
It was suggested to contact Tune Kamae concerning the CR simulator.

People Power: Sean Robinson volunteered to continue working on this topic.

People Power in General

We asked about the potential number of FTEs that could be devoted to the tasks assigned to this group. The SAS will ramp up involvement over the next six months. The SSC has 2 FTEs(?) to work on these tasks. Representatives from Italy and France have yet to determine their level of involvement, but there is certainly interest in participating. We will address this issue in more detail in upcoming meetings.

Near-term Plans
After this report is finished, we must start work on a more detailed consideration of the tasks assigned to this group, most importantly a serious write-up of the requirements and plans to complete the work are due by September. We plan to hold VRVS meetings as necessary and circulate documentation among our members.