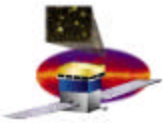


Schedule/Manpower

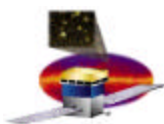
16 August 2001

**Stanford Linear Accelerator Center
Stanford CA**



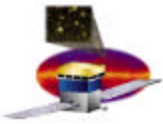
Schedule

- A rolled up version of the Flight Software WBS is in the PDR report.
- The schedule revolves around the delivery of hardware units.
 - EM1
 - EM2
 - Qualification Unit
 - Flight Unit
- Each provides increasing complexity and capability.
- Message is, our schedule depends on this hardware.
- Other major duties are
 - Support for Hardware Simulator
 - Test Bench Support



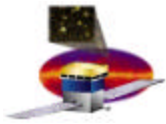
EM1

- **First realistic platform for FSW, concentrate on utilities and framework**
 - **Command and Configuration**
 - **Control**
 - **Basic dataflow**
 - **Housekeeping**
 - **Calibration**
 - **Framework development**
- **Limited to single CPU/single tower**
- **Hardware simulator will be available in the same time frame**
 - **Pushes data into the dataflow system**
 - **Uses Monte Carlo Events**
 - **Poisson trigger distribution**
 - **Will measure system integrity and throughput**
 - **Known events at a known time.**



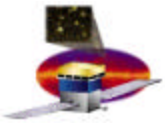
EM2

- Continuation of EM1
- Provides multi-CPU/mult-itower capability
- Basic utilities expanded to operate in this more realistic environment, eg
 - Statistics need to be gathered from multiple sources
 - Commands need to be scattered to multiple destinations
 - Can test fail-over scenerios
- Hardware simulator expanded to simulate multiple towers.



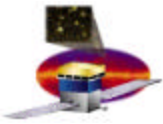
Qualification and Flight Units

- **Emphasis changes to**
 - **Application programming (vs utilities and frameworks)**
 - **Integration and Testing**
 - **Operational issues**



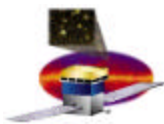
Test Bench Support

- Flight software group is committed to providing test bench support for the detector development.
 - The emphasis is on support
 - Provide low-level utilities to access the hardware.
 - Provide a framework to construct a test environment.
 - FSG does not write acceptance test code.
 - Benefit to both groups
 - They get software support.
 - FSG get real-life experience.



Software Roadmap

Design And Engineering	Tower Integration	LAT Integration
Support Software		
<ul style="list-style-type: none"> ○ Software Architecture ○ Front-end commanding ○ Mode Control <ul style="list-style-type: none"> – Physics – Calibration – Diagnostic 	<ul style="list-style-type: none"> ○ Multi-Tower Support ○ Multi-CPU Support <ul style="list-style-type: none"> – CPU-to-CPU – Scatter/Gather ○ Power Distribution ○ 1553 Services 	<ul style="list-style-type: none"> ○ Scripting ○ Autonomous Control ○ IOC Support ○ GBM Support ○ Recorder Services
Science Software		
<ul style="list-style-type: none"> ○ Event Flow <ul style="list-style-type: none"> – Pipeline – Filtering – Output Formatting ○ Timing Services ○ Calibration, Hsk 	JJRussell	7



Issues & Concerns

- Geographical distribution of people leads to some inefficiency.
- Skill mix
 - Excellent systems people
 - Weaker in
 - Science aspects
 - Flight experience
- Overhead of running the group.
- Extra projects that appear
 - Software is used to patch holes
- Possible conflicting priorities and time scales for test bench support.
- Competition for hardware
 - How many units, where and when?