

# FSW Monthly Feb 25 '04

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**Last Month work**

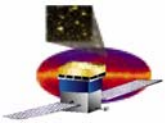
**Demo layout for the rest of the year**

**QLR action items**

**Next 3 months**

**T. Schalk**

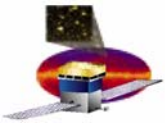
**ucsc**



# Feb activities

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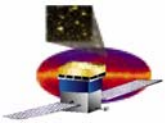
- Continued work on debugging AEM, GEM, GASU, LCB and drivers
- Checked in version 1 of the Cmd and Telem database tool to CMX and released it to production
- Almost finished with CMX port to windozes
- Finished draft version of FES hardware manual
- Started work on EEPROM file system ( TFFS from Windriver)
- Built a watchdog timer facility for all platforms along with test code.
- More work on EM2 peer review
- Worked on detailing the second monthly demo and lay out of the rest of the year
- Have good candidate for 2-nd SE
- Hired another tech writer for Huffer



# Demo schedule (I)

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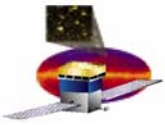
- **Jan demo:**
  - 1553 communication
  - pbs Pkg
  - MSG pkg
  - Filter
  - CMS pkg
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- **Feb demo:**
  - config/readout CAL
  - config/readout TRK
  - watchdog
  - latte
  - ltx
- **March demo:**
  - config gasu... GEM, AEM, EBM
  - single event display
  - generate Alert tlm packet
  - generate diagnostic TLM packet
- **April demo:**
  - BOOT commands (all)
  - boot telem (packets)
  - cPCI LCB initialization
  - discreet monitor control/reporting



## Demo schedule (II)

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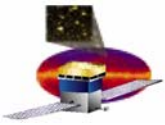
- **May demo:**
  - receive / process SI attitude
  - receive / process SI ancillary
  - receive / process SI time tone
  - gen ARR test cmd
  - gen science data pkt test cmd
  - set discrettes on test cmd
  
- **June demo:**
  - ISIS formal testing
  
- **July demo:**
  - thermal control cmd/TLM
  - deadtime monitoring
  - deadtime reporting
  
- 
  
- **August demo:**
  - config proto tower / TEM
  - cmd config multi towers / TLM
  - filter data from proto-flight HW
  - all filter algorithms to meet data rate
  
- **Sept demo:**
  - boot EPU (with TLM and control)
  - code load to EPU
  - produce simulated TLM frame
  - respond to cmds / Mode control



## Demo schedule (III)

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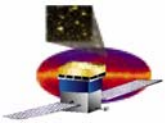
- **Oct demo:**
  - perform all instrument calib with FES
  - perform filter diagnostics and report in TLM
  - OPS / high lvl cmds
- **Nov demo:**
  - 1553 cmd/TLM full test
  - multi tower full config
  - diagnostics
  - filter performance
  - code load / run
- **Dec demo:**
  - Flight unit BUILD (pre - FQT)
- **Jan demo:**
  - Flight unit BUILD (post - FQT)



## QLR responses (I)

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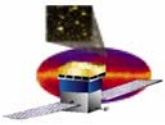
- requirements are at a high level
  - FSW SRS (and later the FSW Test Plan) being updated.
  - Additional Documentation Updates planned.
    - Ie. FSW Maintenance Plan



## **\*\*taken from Feb 26<sup>th</sup> EM2 review\*\***

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- **Complete FSW SRS reviews and re-baseline requirements via FSW CCB by end of March**
- **Update DOORS Traceability in response to SRS updates by April**
- **Update FSW Test Plan in response to SRS updates by April**
- **Detailed mapping of FSW requirements to monthly demos**
  - **Thru June by end of March**
  - **Thru F/U by April**
- **ISIS requirements and testing addressed in detail by ISIS Lead Eric Hansen at review**
- **Monitor changes via FSW CCB**

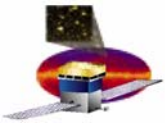


## **\*\*taken from Feb 26<sup>th</sup> EM2 review\*\***

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- **FSW SRS is LAT-SS-00399**
  - **Version 02 is latest baselined version**
  - **Draft of Version 03 to incorporate IV&V, QLR inputs**
    - **In FSW team review**
    - **Will mandate updates to FSW Test Plan, DOORS Tracing**
- **Applicable SRS requirements will be included in the ISIS requirements document**
- **Lots of clarifications added for testability**
  - **Pointing to other docs for reference**
  - **Specifying values/parameters**
  - **Splitting requirements**
- **Additional derived requirements from lower-tier docs: Boot, Thermal, CMD/TLM**
- **Mode Control (transition to/from Repointed mode)**
- **Ongoing work to derive requirements to satisfy ACD/CAL/TKR needs in the areas of Housekeeping, Event Monitoring, Diagnostics, Calibration, and SAA Transit**

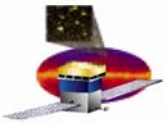




## QLR responses (II)

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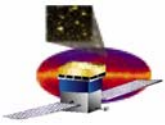
- **limited schedule margin**
  - **Science Data rate increased by 4X to reduce filtering requirements**
  - **Work on a prioritized schedule progressing**
- **identify and agree on code metrics**
  - **Have agreement and will report at ISIS delivery**
- **Implement a more formal test process**
  - **Will implement for ISIS delivery as build up to flight unit**
- **Have all FPGA (and ASIC) designs Peer Reviewed by GSFC reviewers**
  - **GPO and SLAC have already coordinated some of these reviews, more scheduled.**
- **Implement a FSW CCB**
  - **Done**
  - **Membership includes key FSW management, systems engineering, project office, and test personnel**
  - **See “LAT FSW CCB Procedure” (LAT-MD-03082) for details**
- **more FSW schedule details are needed**
  - **Demos set for rest of the year with details developing**
  - **Committed to a detailed schedule to be completed during March**



## QLR responses (III)

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- report software resources regularly
  - At Release milestones
- Identify reviews to be held during FSW development
  - EM2 review happening Feb 26
  - Others tbd TRRs; ISIS ; FES ; FU
- GPO support should be enhanced
  - Done (Mike DeKlotz and Erik Andrews full time)
- Test stand support
  - LAT Management working to ensure that primary responsibility with the test stands rests with I&T team. FSW to provide software builds and updates through coordinated channels to I&T for Test Stands.
- Software scalability
  - FES will be platform to demonstrate full simulation of 16 tower system
- FES definition
  - 2 new collaborators will spend full time on definition and implementation
- ISIS may only be good for interface check out
  - ISIS -is- for interface testing only
  - (Have dedicated new engineer for ISIS deliverables)
- Have software report independently of the hardware
  - SLAC and Project Office continuing to ensure this occurs.



## Additional Tasks in next 3 Months

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- **Finish design Internal LAT Software Communication Protocols**
  - **Communication task-to-task and CPU-to-CPU**
- **Finish Implementation of Table driven cmd server**
- **Event server**
  
- **Development of all EM2 packages (these use EM1 packages)**
- **Evaluate the design and implementation of Software watchdog**
- **Pick back up the housekeeping code**
  
- **Articulate a detailed schedule during March**
- **Formal definitions for ISIS deliverables**
- **Formal definitions for demos through EM2 delivery**