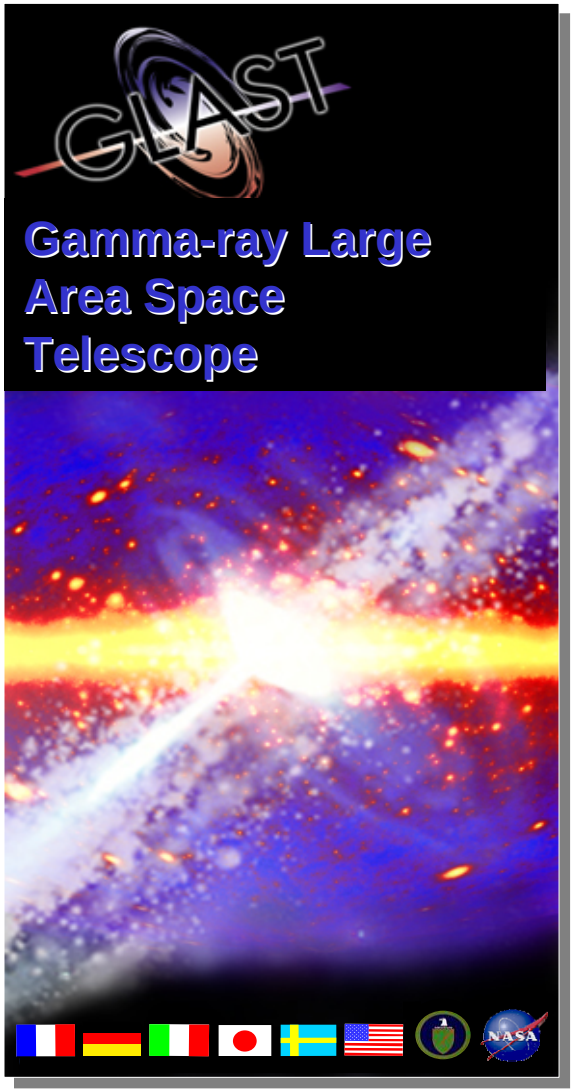


GLAST Large Area Telescope

Instrument Flight Software

LAT Monthly
Mar 2, 2006

Dick Horn

Final FQT Closure Plan - Overview

- **Currently 0.6.3 - 145 of 183 requirements**
  - **25 FSW FQT scripts successfully run with V0-6-1 →25/43**
  - **4 event processing scripts tested plus entire suite regression tested for V0-6-2 → 30/43**
  - **5 LCI, 4 event perf., 1 FSWINI, 1 MEMMGT, 1 wideband telemetry scripts for V0-6-3 → 42/43**
  - **1 thermal script remaining to complete FQT of current available functionality→ 43/43**

- **Release 0.7.0 Target For Formal FQT - 173 of 183 requirements - 31 March**
  - **Added functions: GRB response, Gamma, CNO, Cosmic filters**
  - **New scripts: 3 diagnostic (using filters), ~1 GRB response → 47/51 total scripts**

- **Release 1.0.0 target for delta-FQT - 183 of 183 requirements**
  ECD: POST NRL Ship, Need science closure
  - **Added function: GRB detection, data compression**
  - **New scripts: ~1 GRB detection, ~3 FSWSTD → 51/51 total scripts**
  - **Additional requirements verified**
    - **5.3.10.2 LAT GRB Detection**
    - **5.3.10.2.1 GRB Location Accuracy**
    - **5.3.10.2.2 Modification of GRB Criteria**
    - **5.3.11.3.3 Process Attitude Data**
    - **5.3.11.5 LAT Closeout to GBM**
    - **5.4.1 System of Units**
    - **5.4.2.1 LAT Coordinate System**
    - **5.4.2.2 Observatory Coordinates**
    - **5.4.2.3 Celestial Coordinate System**
    - **5.4.3 Resource Margin**

Closure to FQT

FSW Remaining Functionality

- GRB/GBM Interfaces:
  - LIM Coding DONE
  - Companion LPA coding complete by 15 March
  - Unit testing in work plan to complete by 20 March
  - FSW Test Script Dry-run complete by 24 March
- Filters: CNO, Gamma, Tracker Alignment (Cosmics)
  - Coding/ Unit Test Complete by 17 March
  - FSW Test Script Development Dry-run complete by 28 March
- Thermal Control
  - Coding/Unit test/LM Radiator Test DONE
  - FSW Test Script & Simulation Dry Run complete by 17 March

Formal TRR & FQT Plan

- Schedule TRR for 23 March
- Execute FQT 27->31 March

Expect to roll the above functionality prior to System Test Run For Record

Test Script Status (1 of 3)

Test Script (in priority and planned execution order)	Open Dev Liens* Informaly Runs		Formal Dry Run
Primary Boot (nominal)			
FSWINI_001: SIU primary boot	√	√	√
FSWINI_009: SIU boot status on discrete lines and SIU boot housekeeping telemetry	√	√	3/10/2006
FSWINI_005: EPU primary boot	√	√	√
CMDFNC_001: Soft reset	√	√	√
Secondary boot (nominal)			
FSWINI_010: SIU and EPU secondary boot	√	√	√
NBTLMV_001: Housekeeping and low-rate science	√	√	√
Configuration (nominal)			
SIUCFG_001: LAT subsystem data collection	√	√	√
SIUCFG_002: LAT subsystem configuration	√	√	√
FILMGT_001: File management	√	√	√
Mode Control			
OPMODE_001: Mode control	√	√	√
Charge Injection			
FECALB_001: TOT measurements	√	√	3/10/2006
FECALB_002: TKR Threshold and charge scans	√	√	3/10/2006
FECALB_003: TKR Trigger check	√	√	3/10/2006
FECALB_004: ACD CI	√	√	3/10/2006
FECALB_005: CAL CI	√	√	3/10/2006

Test Script Status (2 of 3)

Event Performance Monitoring			
EVTPMO_001: Deadtime	√	√	3/10/2006
EVTPMO_002: VETO rates from GEM	√	√	3/10/2006
EVTPMO_003: L1 Trigger Rates	√	√	3/10/2006
EVTPMO_004: Monitor CNO Rates	√	√	3/10/2006
Filter			
EVTFIL_001: Interface from the Event Builder	√	√	√
EVTFIL_002: Rates and capacity	√	√	√
EVTFIL_003: Reprogramming	√	√	√
EVTFIL_004: Filter bypass	√	√	√
WBTLMV_001: Science data format and volume	√	√	3/10/2006
Primary boot (non-nominal)			
FSWINI_002: Boot self-test	√	√	√
FSWINI_003: Multiple boot images	√	√	√
FSWINI_004: SIU hardware reboot in response to signal on the discrete lines	√	√	√
FSWINI_007: Storage and retrieval of system errors during SIU primary boot	√	√	√
FSWINI_006: Reset source	√	√	√
FSWINI_008: Storage and retrieval of system errors during EPU primary boot	√	√	√
FSWINI_012: SEU protection	√	√	√
FSWINI_013: Memory scrubbing	√	√	√
FSWINI_014: Watchdog management during boot	√	√	√
Secondary boot (non-nominal)			
FSWINI_011: SIU and EPU secondary boot error mitigation	√	√	√
CMDFNC_003: 1553 interface and command functional verification	√	√	√

Test Script Status (3 of 3)

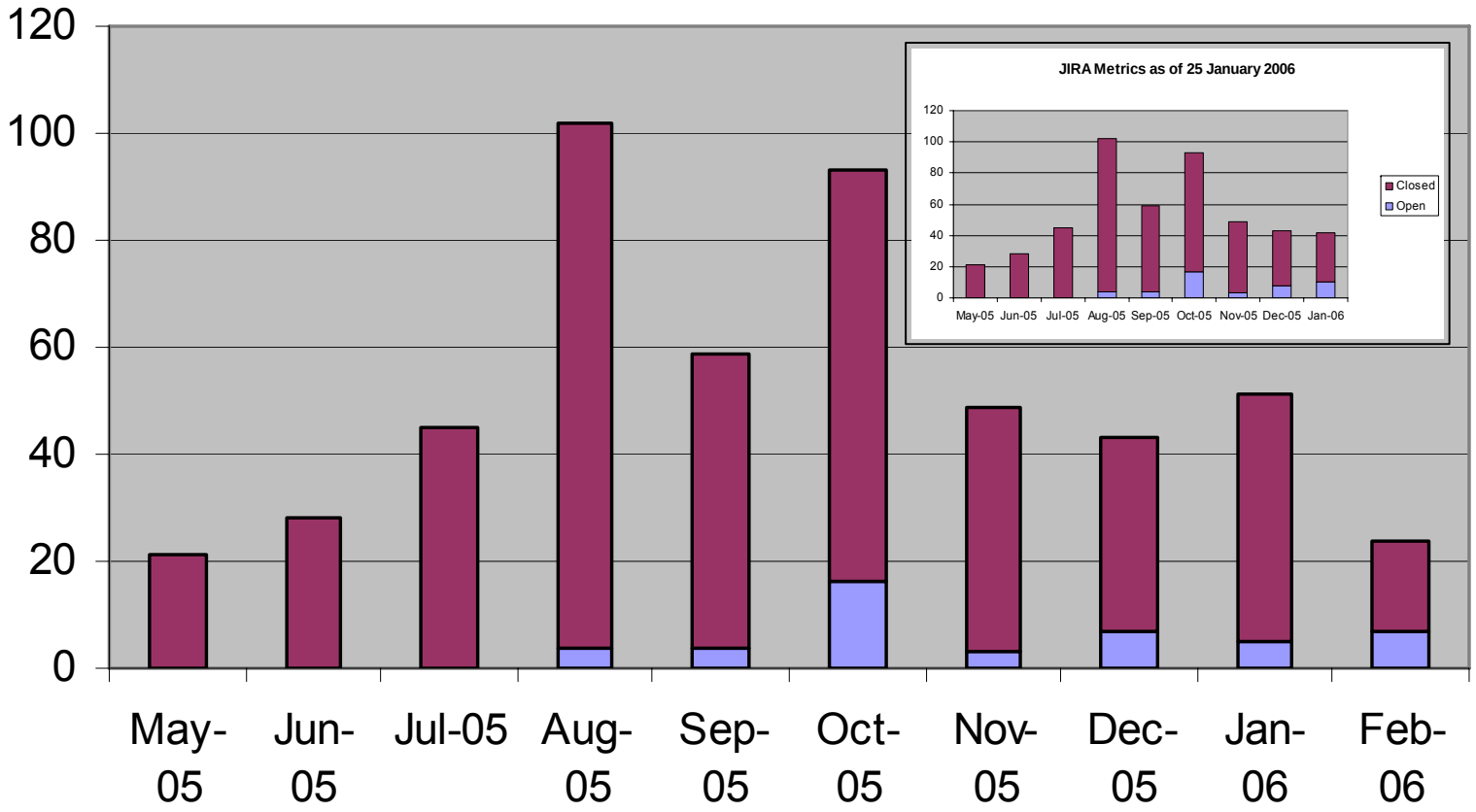
Configuration (non-nominal)			
MEMMGT_001: Memory managment	√	√	√
MEMMGT_002: Memory load data	√	√	3/10/2006
Other non-nominal			
NBTLMV_003: ACD HSK anomaly response and alert telemetry	√	√	√
TIMPRC_001: Time Services	√	√	√
Interface formats			
NBTLMV_002: Diagnostic telemetry	√	√	√
IPCFNC_001: Inter-processor communications	√	√	√
VSGIFV_001: Discrete Signal interfaces	3	√	P
Thermal			
THRMCS_001: Thermal control system	√	3/9/2006	3/10/2006
Diagnostic functions			
DCMODE_001: ACD Diagnostics and Calibration	1	3/22/2006	3/23/2006
DCMODE_002: CAL Diagnostics and Calibration	1	3/22/2006	3/23/2006
DCMODE_003: TKR Diagnostics and Calibration	1	3/22/2006	3/23/2006
GRB			
GRBPRC_001: GRB Detection	4	Deferred	
GRBREQ_001: GRB Response	2	3/22/2006	3/23/2006
FSW Standards			
FSWSTD_001: Units	All	Deferred	
FSWSTD_002: Coordinate Systems	2	Deferred	
FSWSTD_003: Resource Margin	All	Deferred	

***Development Liens**

1) Cosmic ray filter
2) GRB Response
3) JIRA FSW-413: Testbed primary/redundant SIU setup
4) GRB Detection

JIRA Metrics

JIRA Metrics as of 28 February 2006



Open Issues

3 – Critical/Blocker
10 - Major
20 - Minor
15 - Trivial/Deferred