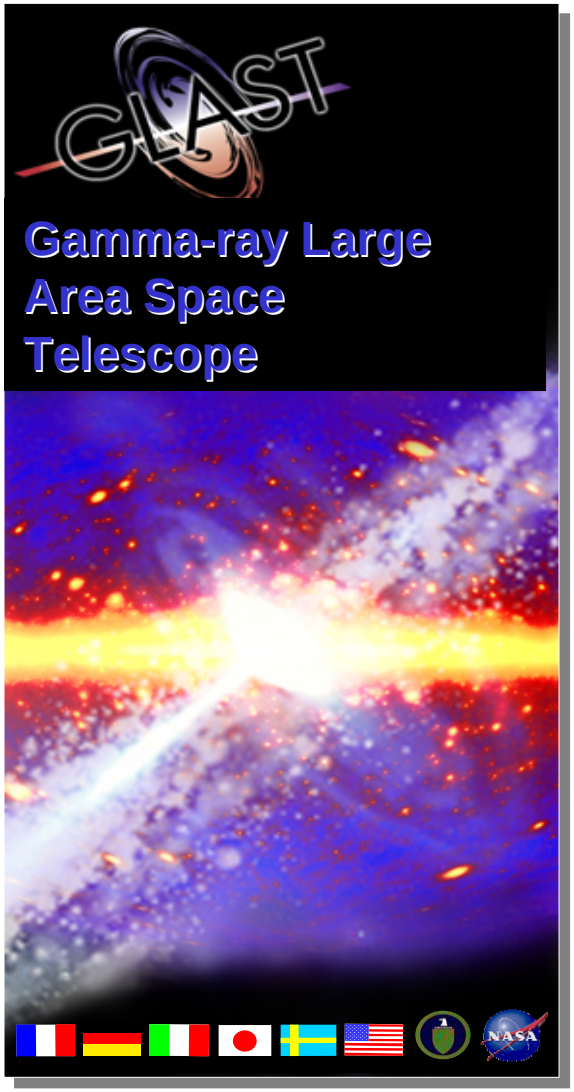


GLAST Large Area Telescope

Instrument Flight Software

LAT Monthly
Jan 26, 2006

Dick Horn

FSW Status Toward Baseline System Test

- Release 6.1 Complete/System Checkout FQT progress
  - Completed initial FQT successfully (25/43 scripts)
    - Released and loaded on SIU's: Support I&T through power-up, Housekeeping and file management
- New plan to Release 6.2 to support I&T Science data collects: 3 Feb
  - Added LPA (Event Processing) capability: delta FQT on 4 related scripts completed 1/25/06
  - Complete regression test next week
  - LCI & data path appear to be stabilizing, but still bugs in work, so assuming another incremental release
- Anticipating a Release 6.3 to commission LCI :10 Feb
  - Expect LCI (5 scripts, 21 Requirements) to complete 3 Feb
    - Assuming LCI bugs closed with minor impact to FSW test
  - Expect regression tested Release 6.3 to I&T: ECD 10 Feb
- The above functionality should support I&T thru majority of system test
  - Deferred Items per next chart

Will try to collapse back into one R6.2 release if I&T not impacted

Closure to Final FQT

- Scripts deferred to System Test FQT now in work (GRB-related, thermal control, filters, plus repeat of System C/O scripts)
  - 9 scripts for deferred items, 53 requirements (Total FQT 52 Scripts)
  - Thermal Control correlation with LM test complete - 24 Jan
    - FSW updates complete: ECD 3 Feb
    - FQT Test Scripts: ECD 14 Feb
  - GRB/GBM interface plan forward documented by JJ
    - Demonstrate external FSW I/F's required for LAT test: ECD 17 Feb
    - Assuming straight forward FSW FQT scripts: ECD 20 Feb
  - OSU has worked a C/NO filter baseline, roll initial complete filter set into Release 7.0: Closure dates TBD

- Release 7.0 Target For Formal FQT
  - Incorporate Lessons Learned
  - Deferred Jira Items
  - GRB, Initial Filters and data compression
  - FQT ECD 20 Dec -> 16 Jan -> 2 Feb TBR* -> 24 Feb
- Expect to roll the above functionality prior to System Test Run For Record

LCI/LATC Debugging

- In prep for FQT and test development with I&T we identified many more bugs than expected since 5 January
  - 6 LCI Issues resolved
  - 9 LATC issues resolved
  - 3 Issues identified & in work
- Most issues were straight forward bugs that were transparent until trying to run meaningful data end to end in the dataflow lab
  - Symptomatic of late completion of the whole VSC/VPI data chain (last year's pacing item)
- A few issues were disconnects from FSW implementation for calibration/charge injection from what has evolved in subsystem & system test procedures
  - None appear to be requirement creep
  - Issue is practical experience feedback to FSW from subsystems & system test as LAT system understanding has increased
- Detailed issue resolution is continuing with good progress
  - Focus is on "must haves" to move forward with system test

Test Script Status (1 of 3)

Test Script (in priority and planned execution order)	Open Dev Liens* Dry Run		Checkout FQT
Primary Boot (nominal)			
FSWINI_001: SIU primary boot	√	√	√
FSWINI_009: SIU boot status on discrete lines and SIU boot housekeeping telemetry	√	2/3/2006	
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		2/3/2006	
FECALB_002: TKR Threshold and charge scans		2/3/2006	
FECALB_003: TKR Trigger check		2/3/2006	
FECALB_004: ACD CI		2/3/2006	
FECALB_005: CAL CI		2/3/2006	

Test Script Status (2 of 3)

Diagnostic functions			
EVTPMO_001: Deadtime		2/10/2006	
EVTPMO_002: VETO rates from GEM		2/10/2006	
EVTPMO_003: L1 Trigger Rates		2/10/2006	
EVTPMO_004: Monitor CNO Rates		2/10/2006	
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	√	√	
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	√	√	√

Test Script Status (3 of 3)

Secondary boot (non-nominal)			
FSWINI_011: SIU and EPU secondary boot error mitigation	√	√	√
CMDFNC_003: 1553 interface and command functional verification	√	√	√
Configuration (non-nominal)			
MEMMGT_001: Memory managment	√	√	√
MEMMGT_002: Memory load data	A	√	1/30/2006
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, 4	√	P

***Development Liens**

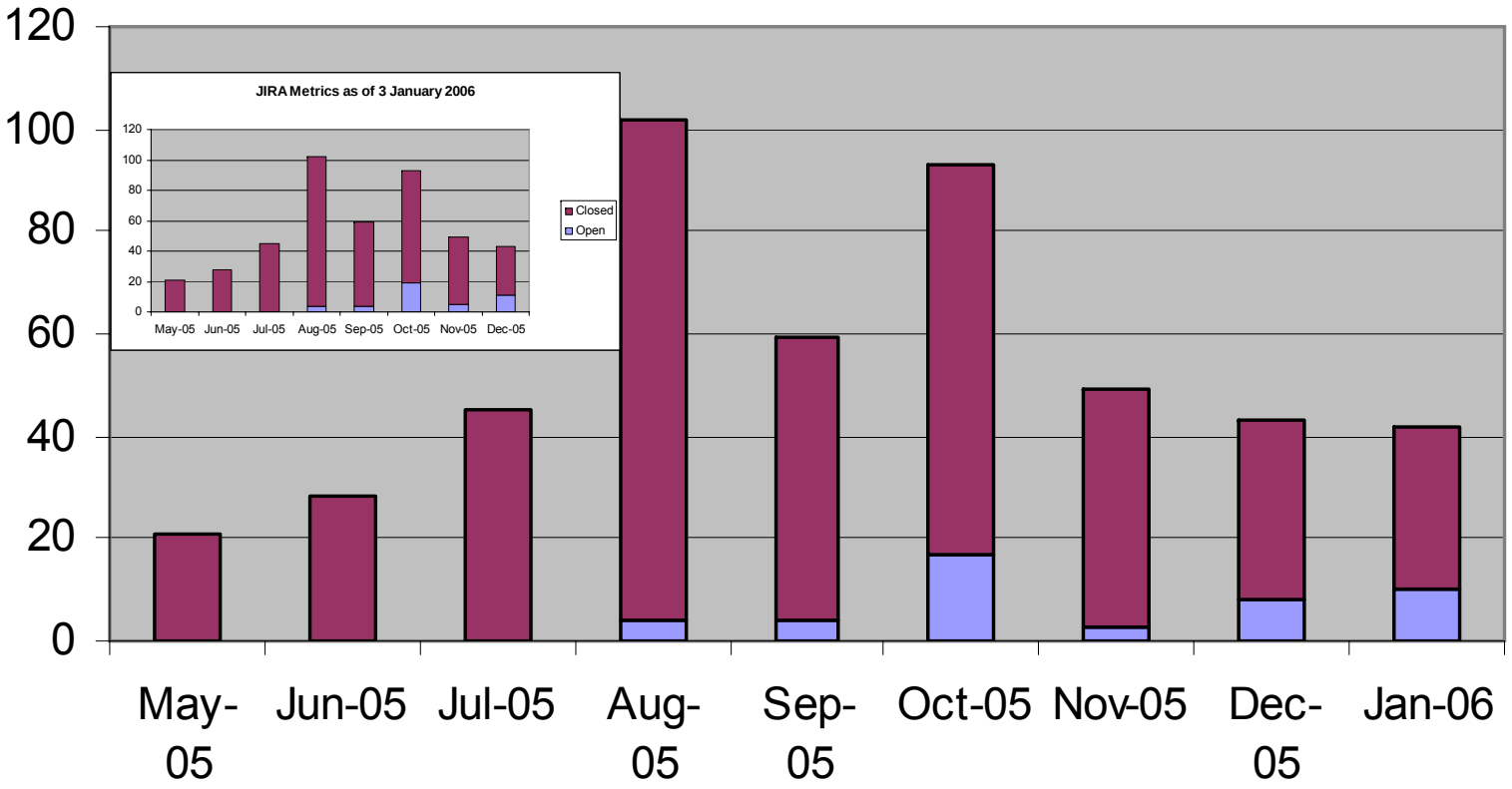
1) N/A
2) N/A
3) JIRA FSW-413: Testbed primary/redundant SIU setup
4) GRB discrete processing not implemented

Other Liens

A) Autoboot

JIRA Metrics

JIRA Metrics as of 25 January 2006



Open Issues

2 – Critical/Blocker
11 - Major
21 - Minor
14 - Trivial/Deferred