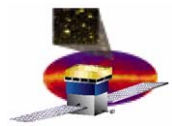


GLAST Large Area Telescope

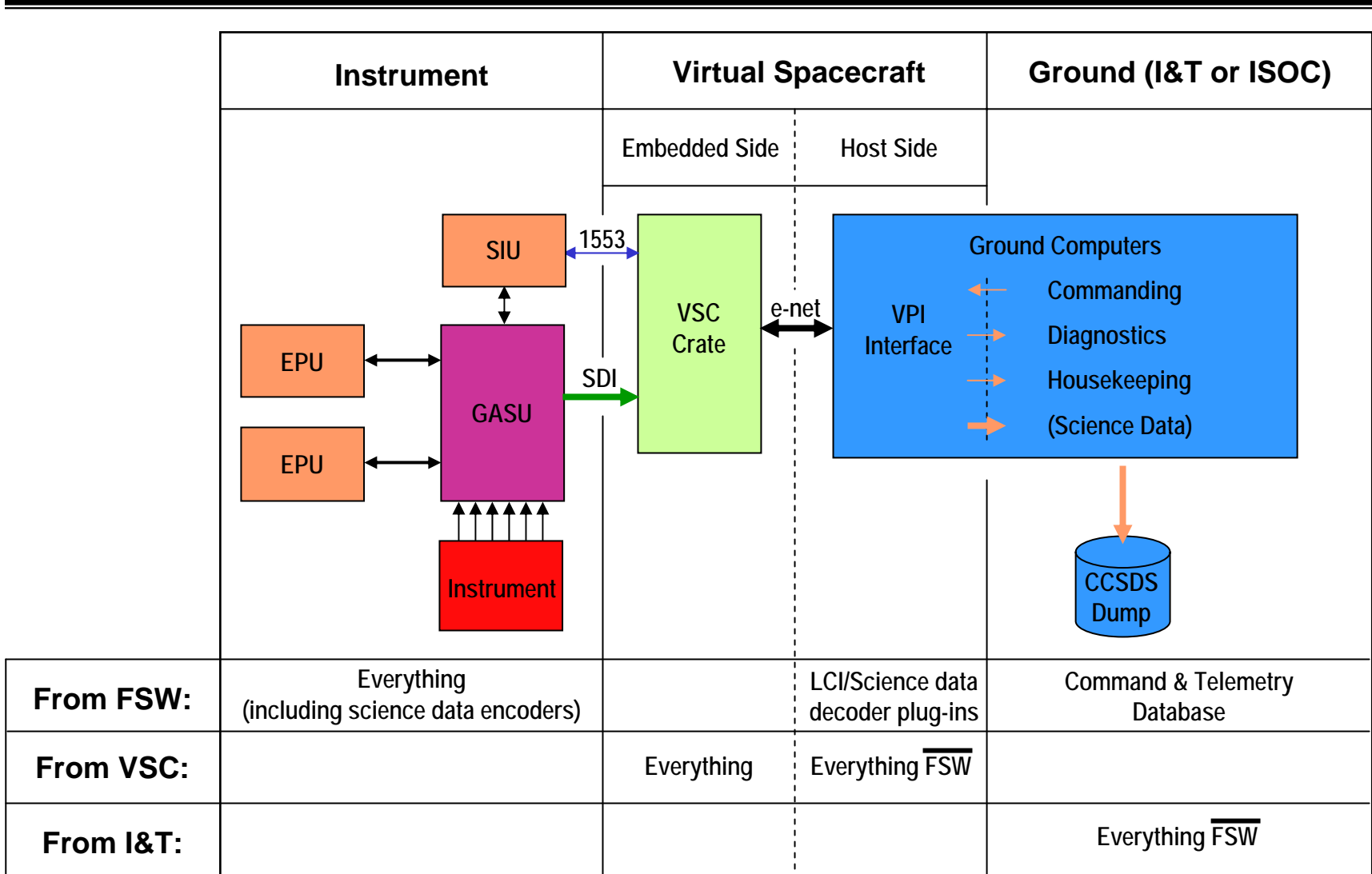
Instrument Flight Software

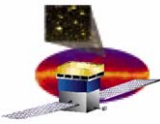
LAT Monthly
Dec 1, 2005

Terry Schalk/Dick Horn



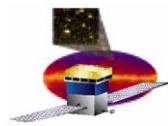
FSW & Dataflow Responsibilities





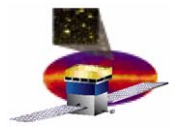
FSW Status

- **Release 5.1 Complete**
 - Multiple Hours of System Runs
 - FSW Contribution to VPI Complete
 - Test Script Development/Closure pending VPI closure
- **Release 6.0 (was called 5.2) Complete – 11/14 -> 11/23**
 - Multiple Hours of System Runs
 - VPI I/F now in place
 - Formal dry runs underway
 - In use by I&T for parallel LICOS & Script development
- **Release 6.1 Target for Phase 1 FQT**
 - Slippage driven by late closure of VPI 11/9 -> 11/29 actual
 - Planned to incorporate any bugs found during prep for formal testing
 - No known FSW development roadblocks
 - FQT ECD 23 Nov -> 16 Dec
- **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



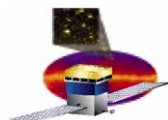
Build History

Build	Date	Added features
0-0-x	5/6	Multi-CPU operations, file & memory management, housekeeping
0-2-0	6/13	Mode control thru startup
0-3-0	7/1	Initial charge injection
0-4-0	7/21	Configuration
0-5-0	9/26	Output across SDI (LCl, etc.)
0-5-1	10/21	Event processing output across SDI
0-6-0	11/23	Updated PBC, VXW; LPA decoder



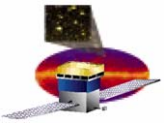
Critical Development Issues Summary

- **No known critical issues for flight packages to resolve for Phase 1 readiness**
 - **One critical issue in ground package to support testing**
 - **Will likely find some in the form of bugs**
- **Several lower priority known issues will become critical for system test readiness after the checkout delivery**
 - **GRB detection and response**
 - **Additional filters**
 - **Compression**



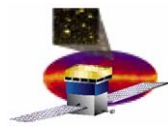
Open Critical & Blocker Issues

Key	Components	Summary	Assignee	Description
FSW-410	QLSM	QLSM Needs to Provide ASCII Dump Utility	Ed Bacho	Since the DFI software does not operate on non-event SSR data, an ASCII dump utility is required to decode the M7 telemetry.



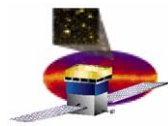
Test Summary

- **Script status**
 - **23 of 46 scripts run to successful completion**
 - **4 of these have had a successful formal dry run with SQA**
 - **20 scripts in process, most responding to recent release of VSC science data decoders**
 - **3 scripts awaiting development or other liens**
- **Test schedule**
 - **Near-term focus on completing scripts that exercise primary boot code (PBC) prior to loading on flight SIU/EPUs**
 - **12/13-16 FSW System Checkout FQT**



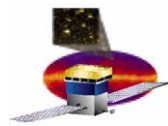
Test Script Status (1 of 3)

Test Script (in priority and planned execution order)	Tester	Milestones				
		Initial Dry Run	Open Dev Liens *	Complete Dry Run	Test Lead Review	Formal Dry Run
Primary Boot (nominal)						
FSWINI_001: SIU primary boot	IK	√	√	√		
FSWINI_009: SIU boot status on discrete lines and SIU boot housekeeping telemetry	IK	√	√	√		
FSWINI_005: EPU primary boot	IK	√	√	√		
CMDFNC_001: Soft reset	SC	√	√	√		√
Secondary boot (nominal)						
FSWINI_010: SIU and EPU secondary boot	IK	√	√	√		
NBTLMV_001: Housekeeping and low-rate science	SC	√	√	√		√
Configuration (nominal)						
SIUCFG_001: LAT subsystem data collection	SM	√	√	√	√	
SIUCFG_002: LAT subsystem configuration	SM	√	√	√	√	
FILMGT_001: File management	SC	√	√	√		
Mode Control						
OPMODE_001: Mode control	SM	√	√	√	√	
Charge Injection						
FECALB_001: TOT measurements	IV	√	√	12/2/2005		
FECALB_002: TKR Threshold and charge scans	IV	√	√	12/2/2005		
FECALB_003: TKR Trigger check	IV	√	√	12/2/2005		
FECALB_004: ACD CI	IV	√	√	12/2/2005		
FECALB_005: CAL CI	IV	√	√	12/2/2005		



Test Script Status (2 of 3)

Diagnostic functions						
DCMODE_001: ACD Diagnostics and Calibration	SM	√	1	*+1w after liens		
DCMODE_002: CAL Diagnostics and Calibration	SM	√	1	*+1w after liens		
DCMODE_003: TKR Diagnostics and Calibration	SM	√	√	12/2/2005		
EVTPMO_001: Deadtime	IV		√	12/9/2005		
EVTPMO_002: VETO rates from GEM	IV	√	√	12/9/2005		
EVTPMO_003: L1 Trigger Rates	IV		√	12/9/2005		
EVTPMO_004: Monitor CNO Rates	IV		√	12/9/2005		
Filter						
EVTFIL_001: Interface from the Event Builder	IV	√	√	12/9/2005		
EVTFIL_002: Rates and capacity	IV	√	√	12/9/2005		
EVTFIL_003: Reprogramming	IV	√	√	12/9/2005		
EVTFIL_004: Filter bypass	IV	√	√	12/9/2005		
WBTLMV_001: Science data format and volume	IV		√	12/9/2005		
Primary boot (non-nominal)						
FSWINI_002: Boot self-test	IK	√	√	√		√
FSWINI_003: Multiple boot images	IK	√	√	√		
FSWINI_004: SIU hardware reboot in response to signal on the discrete lines	IK	√	√	√		
FSWINI_007: Storage and retrieval of system errors during SIU primary boot	IK	√	√	√		
FSWINI_006: Reset source	IK	√	√	√		
FSWINI_008: Storage and retrieval of system errors during EPU primary boot	IK	√	√	√		
FSWINI_012: SEU protection	IK	√	√	√		
FSWINI_013: Memory scrubbing	IK	√	√	√		
FSWINI_014: Watchdog management during boot	IK		√			



Test Script Status (3 of 3)

Secondary boot (non-nominal)						
FSWINI_011: SIU and EPU secondary boot error mitigation	IK	√	√			
CMDFNC_003: 1553 interface and command functional verification	SC	√	√			
Configuration (non-nominal)						
MEMMGT_001: Memory management	SC	√	√	√		√
MEMMGT_002: Memory load data	SC	√	A			
Other non-nominal						
NBTLMV_003: ACD HSK anomaly response and alert telemetry	SC					
TIMPRC_001: Time Services	SM	√	√	√	√	
Interface formats						
NBTLMV_002: Diagnostic telemetry	SC	√	√	√		
IPCFNC_001: Inter-processor communications	SM	√	√	√	√	
VSGIFV_001: Discrete Signal interfaces	SM	√	√	√	√	
Thermal						
THRMCS_001: Thermal control system	SM	√	√			

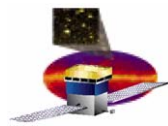
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***Development Liens**

- 1) Cosmic ray filter

Other Liens

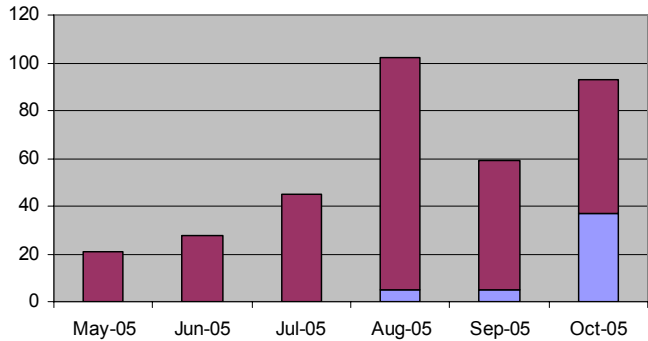
- A) Autoboot



JIRA Metrics

JIRA Metrics as of 29 November 2005

JIRA Metrics as of 31 October 2005



■ Closed
■ Open

■ Closed
■ Open

Open items
1 - Critical
9 - Major
14 - Minor
12 - Trivial

