

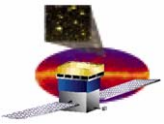
# GLAST Large Area Telescope

Instrument Flight Software  
EM2 Peer Review  
29 January 2004

Requirements/Function Mapping

Mike DeKlotz  
GSFC (resident at SLAC)

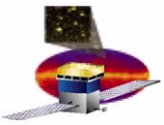
[mdeklotz@slac.stanford.edu](mailto:mdeklotz@slac.stanford.edu)  
(650) 926-4752



# Topics

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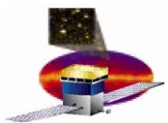
- **FSW Requirements Overview**
  - **Requirements Documentation**
  - **Requirements Summary/Changes**
  - **FSW CCB**
- **EM-2 Functions to Requirements Mapping**
- **FSW Requirements Issues**



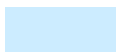
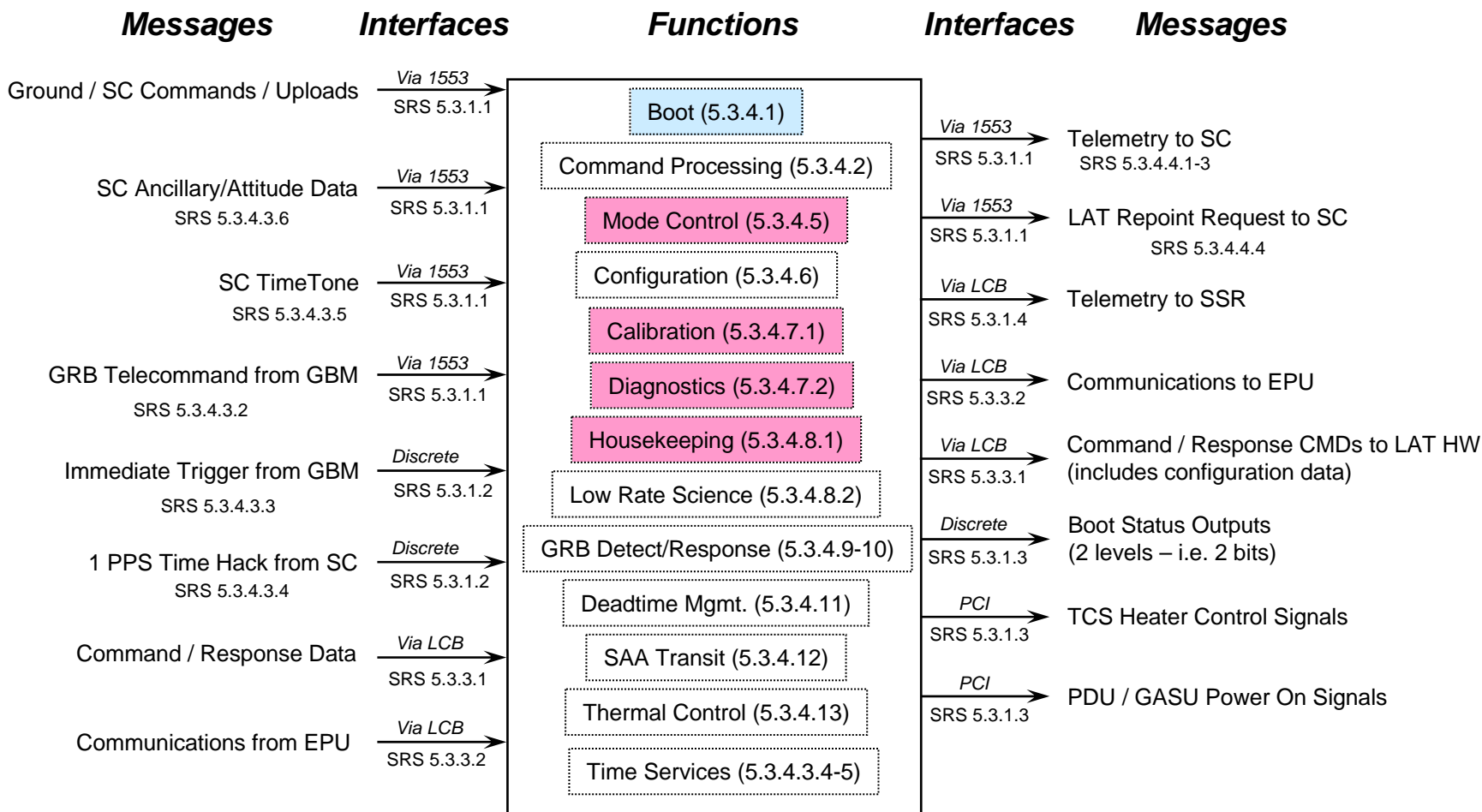
# Requirements Documentation

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- **FSW SRS is LAT-SS-00399**
  - **Version 02 is latest baselined version**
  - **Version 03 in work to incorporate IV&V, QLR inputs**
- **Minor updates in most sections for testability (~done)**
  - **Pointing to other docs for reference**
  - **Specifying values/parameters**
  - **Splitting requirements**
  - **Clarifications**
- **Significant updates needed for other sections (in progress)**
  - **Additional derived requirements from lower-tier docs (e.g., Boot)**
  - **Additional derived requirements TBD**
    - **Subsystem interactions (Housekeeping, Event Monitoring, Diagnostics, Calibration)**
    - **Mode Control (transition to/from Repointed mode)**



# SIU FSW Requirements Summary/Changes

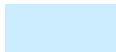
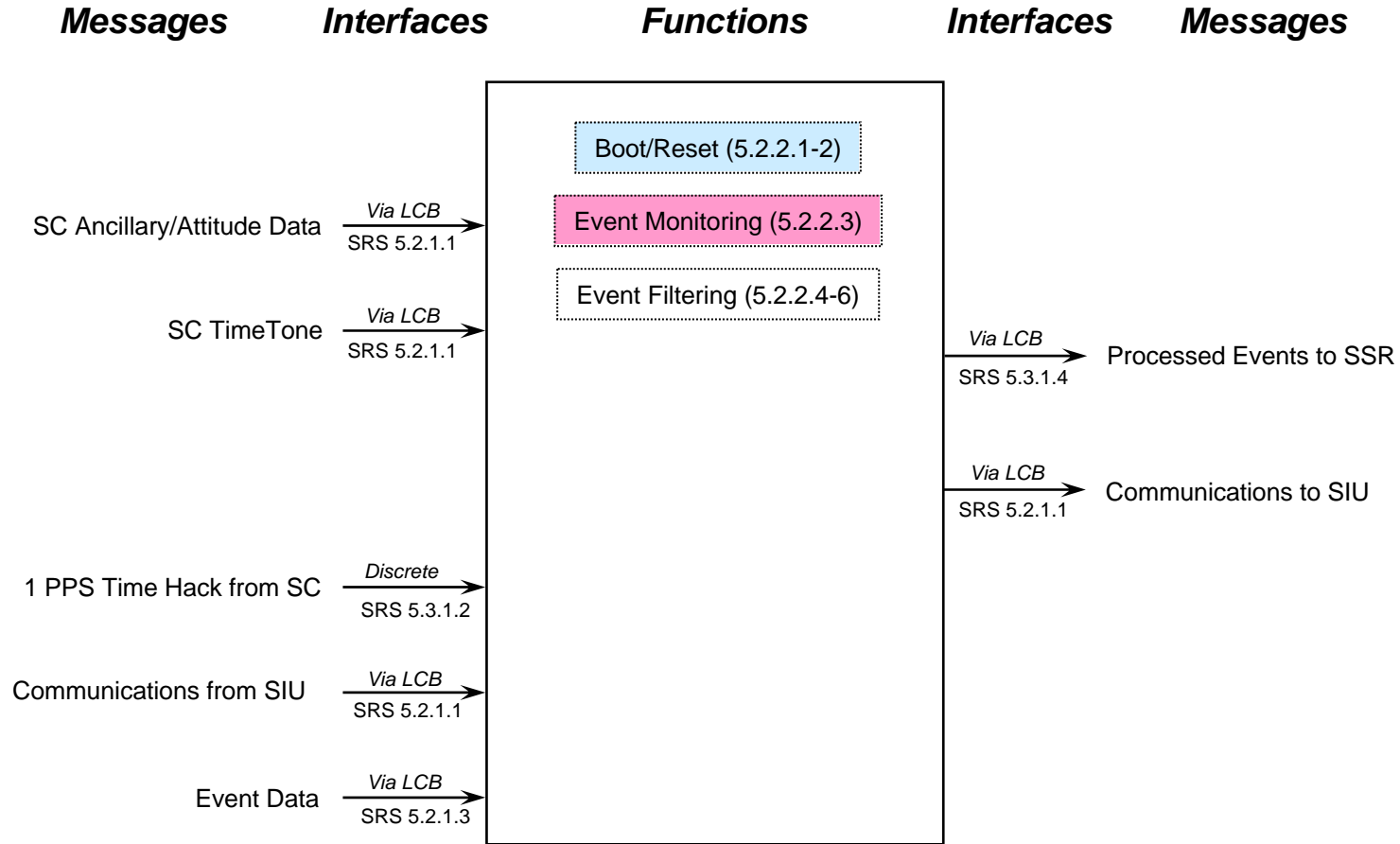


Expanded



Significant requirement updates TBS

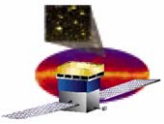
# EPU FSW Requirements Summary/Changes



Expanded



Significant requirement updates TBS



# FSW CCB

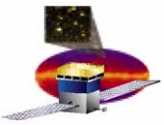
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- **FSW SRS is classified as Level IV document**
- **Via the current CM CCB process, Level IV document changes require minimal review**
- **QLR recommended more robust oversight for FSW requirement changes**
  
- **LAT to implement FSW CCB for FSW requirement documents**
  - **FSW CCB will review and approve all requested changes to FSW requirements documents**
  - **Membership includes key FSW management, project office, systems engineering, and test personnel**
  - **Piggybacks on existing CM process for document management (e.g., Change Request forms, LATDocs, DCNs)**

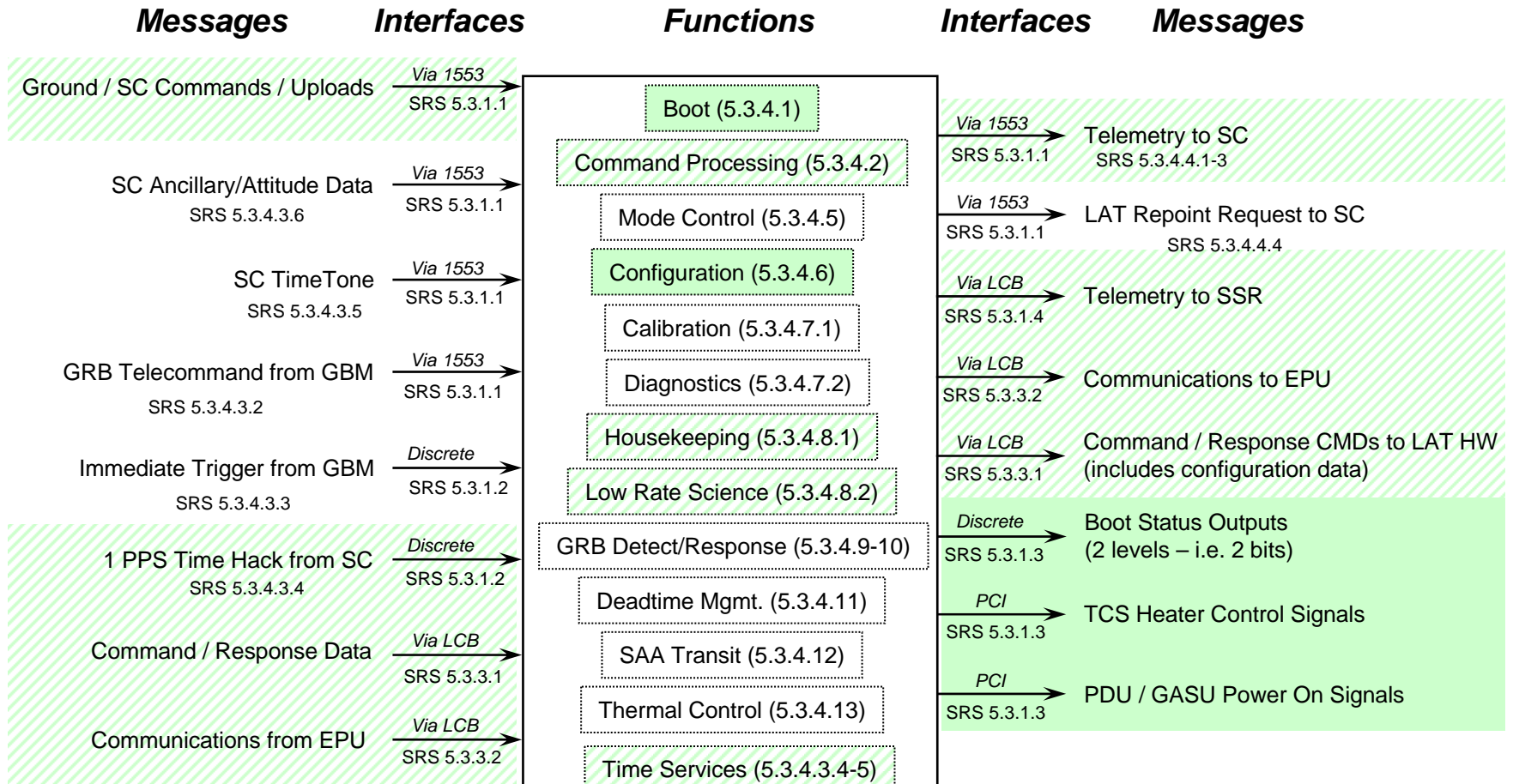


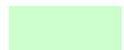

# Functions to Requirements Mapping

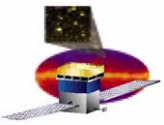
	Test Stands		Spectrum Astro (ISIS)	I&T	FSW Test-bed	FSW Deliverable Requirement
	TKR,CAL	ACD				
Configure TKR and CAL front end electronics	Y			Y	Y	5.3.4.6
Configure ACD front end electronics		Y			Y	5.3.4.6
Configure GASU (CRU, GEM, EBM, AEM)		Y	Y	Y	Y	5.3.4.6
Configure PDU			Y	Y	Y	5.3.4.6
Configure XBRD	Y	Y		Y		N/A
Configure by compressed file			Y	Y	Y	5.3.4.6
Real event delivery (instrument to CPU)	Y	Y		Y	Y	5.2.2.3
Housekeeping data stream	Y	Y	Y	Y	Y	5.3.4.8
RAD750 boot and crate initialization			Y	Y	Y	5.2.2.1, 5.3.4.1
1553 bus communications			Y	Y	Y	5.3.1.1
Telecommand/telemetry database and services			Y	Y	Y	5.3.4.2, 5.3.4.4
Emulated event delivery (to science data interface)			Y			5.3.1.4
CPU internal communications/task frameworks			Y	Y	Y	N/A
Software watchdog			Y	Y	Y	5.2.1.2, 5.3.2.1
Wall clock time services (GPS)			Y	Y	Y	5.3.4.3.4-5



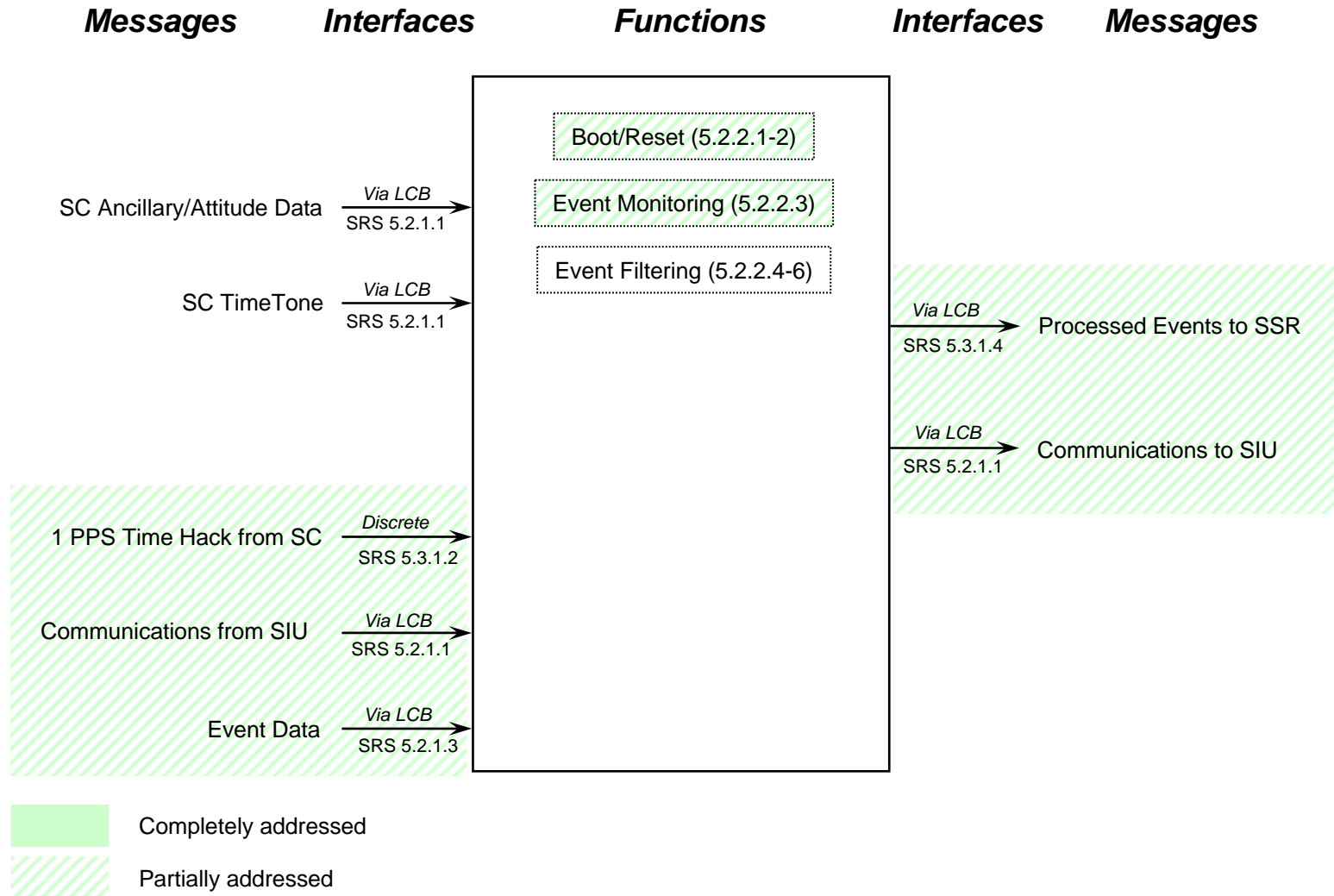
# SIU FSW Requirements Mapping

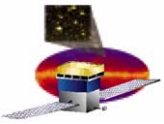


 Completely addressed by EM2  
 Partially addressed by EM2



# EPU FSW Requirements Mapping





# Requirements Next Steps

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- **Item: Subsystem data processing requirements**
  - **Action Plan:**
    - **Feedback from subsystems being gathered**
    - **Working group meetings to follow**
    - **Results to be documented as requirements in FSW SRS and in other FSW docs as applicable**