

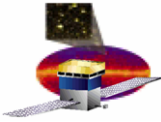
GLAST Large Area Telescope

**Instrument Flight Software
EM2 Peer Review
26 February 2004**

Requirements/Function Mapping

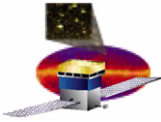
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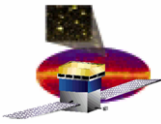
Topics

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

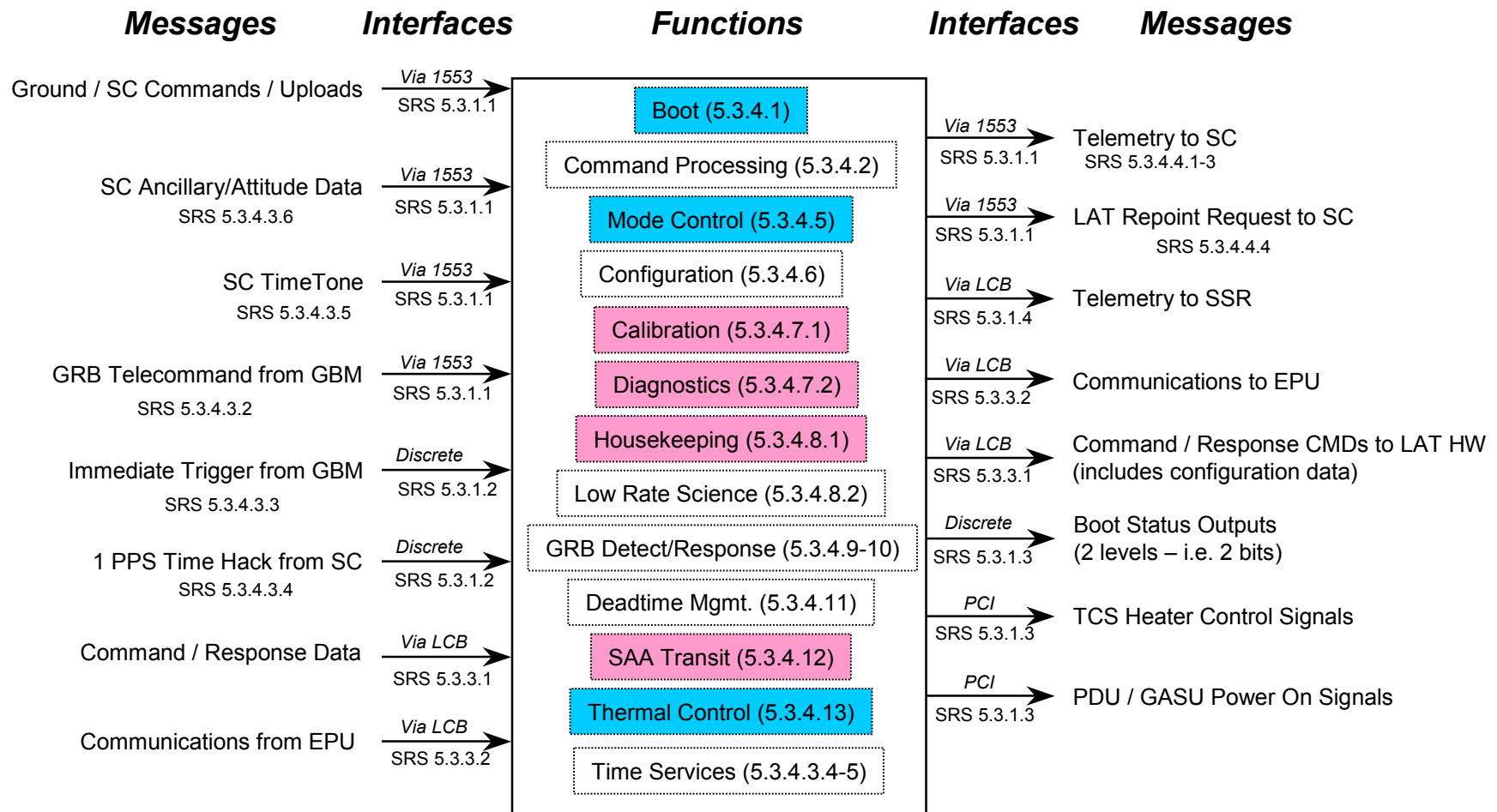


Requirements Documentation: FSW SRS

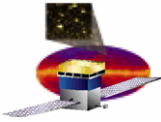
- **FSW SRS is LAT-SS-00399**
 - **Version 02 is latest baselined version**
 - **Draft of Version 03 to incorporate IV&V, QLR inputs**
 - **In FSW team review**
 - **Will mandate updates to FSW Test Plan, DOORS Tracing**
- **Applicable SRS requirements will be included in the ISIS requirements document (refer to Eric Hansen's Test briefing for details)**
- **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**



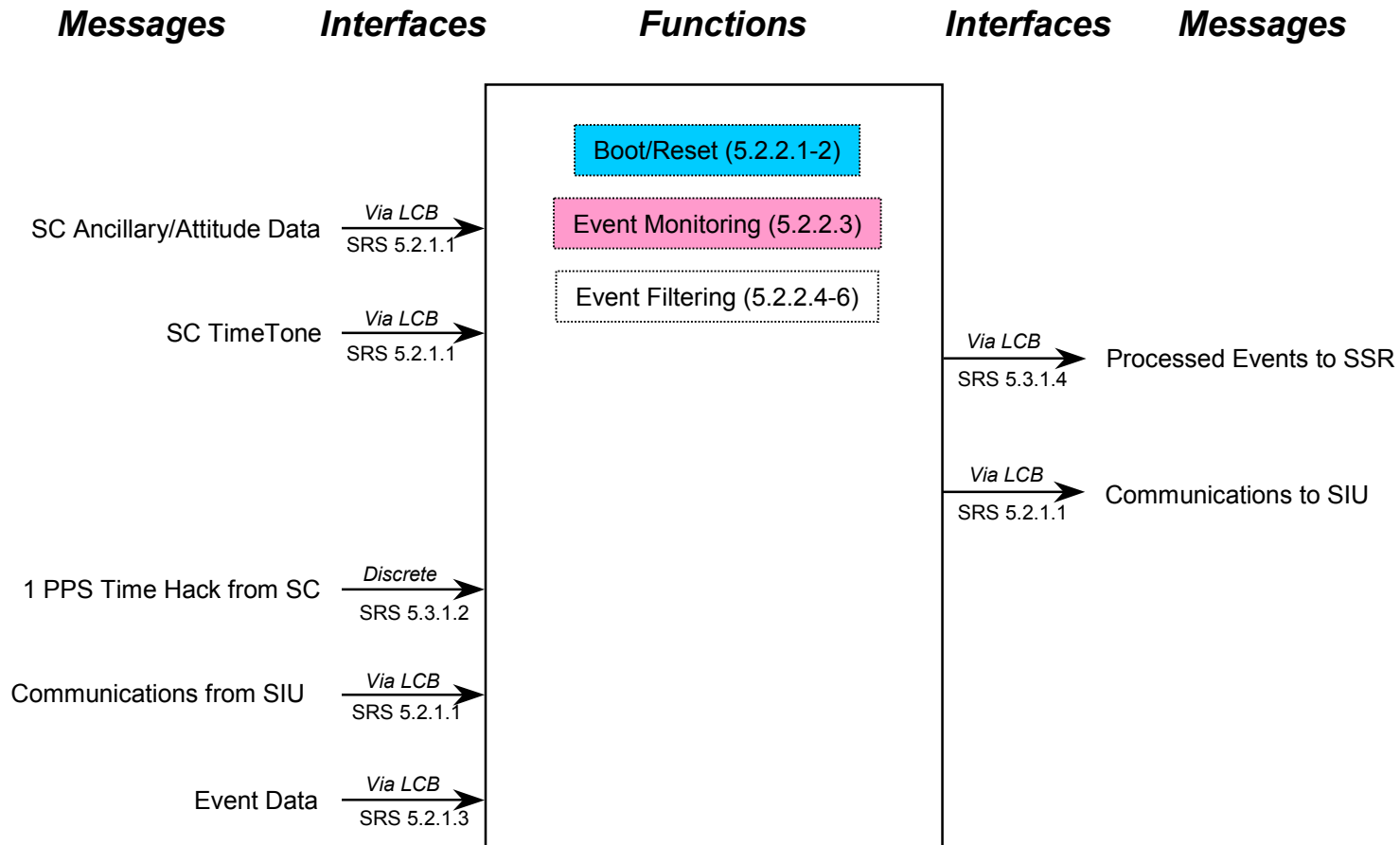
SIU FSW Requirements Summary/Changes





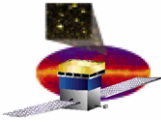
- Expanded
- Significant requirement updates ongoing



EPU FSW Requirements Summary/Changes



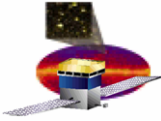
-  Expanded
-  Significant requirement updates in ongoing



FSW CCB

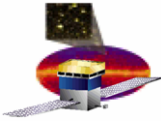
- **FSW SRS is classified as Level IV document**
- **Via the current CM CCB process, Level IV document changes require systems and affected subsystems review**
- **QLR recommended more robust oversight for FSW requirement changes**
- **The updated FSW SRS will be re-baselined by the FSW CCB**

- **LAT has implemented FSW CCB for FSW requirements-related items**
 - **FSW CCB identifies and maintains list of controlled items**
 - **FSW CCB reviews and approve all requested changes to FSW requirements-related items**
 - **Membership includes key FSW management, systems engineering, project office, and test personnel**
 - **Piggybacks on existing CM process (e.g., Change Request forms, LATDocs, DCNs)**
 - **Refer to “LAT FSW CCB Procedure” (LAT-MD-03082) for details**

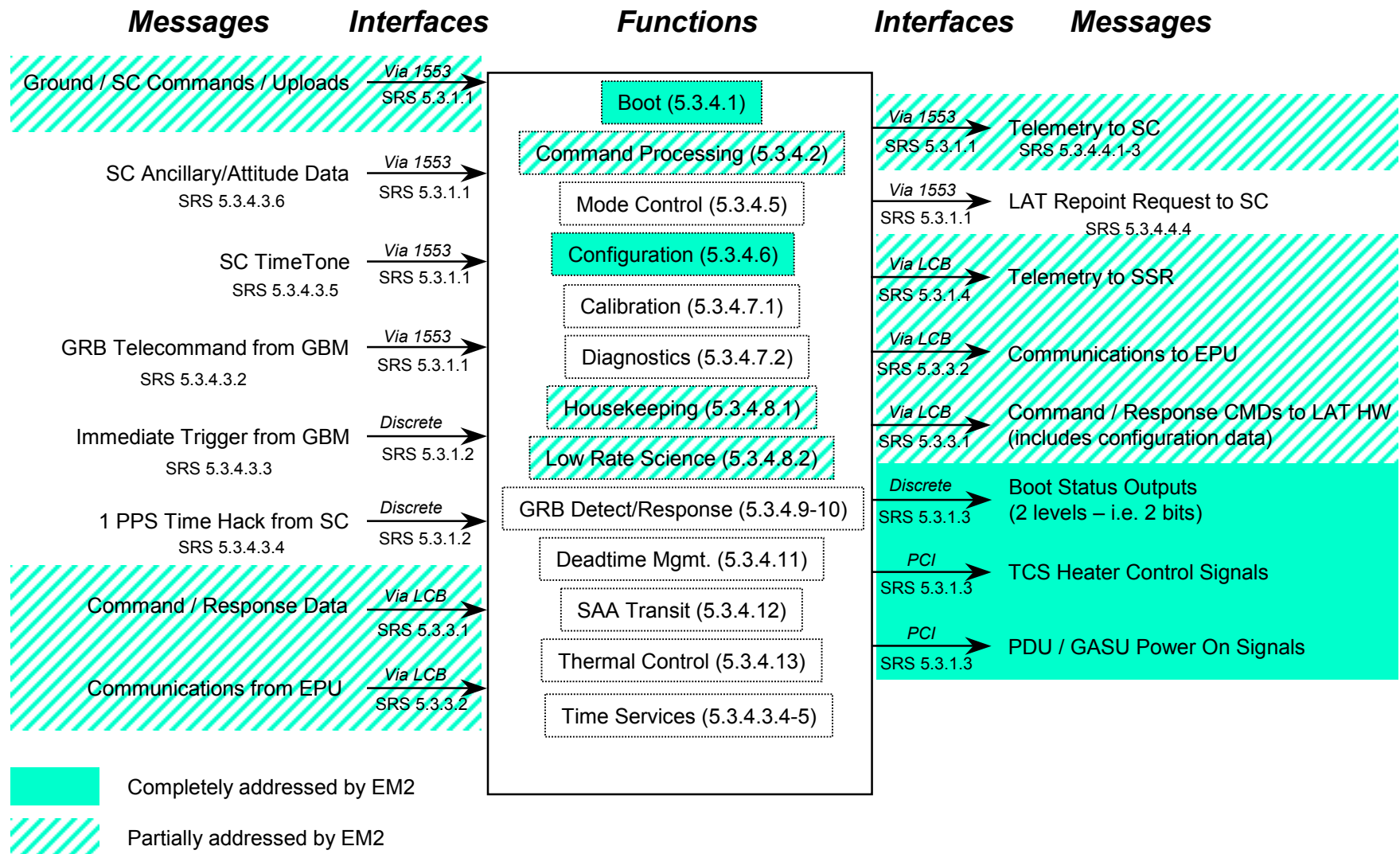


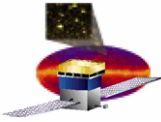
Functions to Requirements Mapping

	Test Stands		ISIS	I&T	FSW Test-bed	FSW SRS 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	5.2.1.3, 5.2.2.3
Housekeeping data stream	Y	Y	Y	Y	Y	5.3.4.8, 5.3.1.5
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	5.3.4.4
Emulated event delivery (to science data interface)			Y			5.3.1.4
CPU internal communications/task frameworks			Y	Y	Y	5.3.4.2
Software watchdog			Y	Y	Y	5.2.1.2, 5.3.2.1

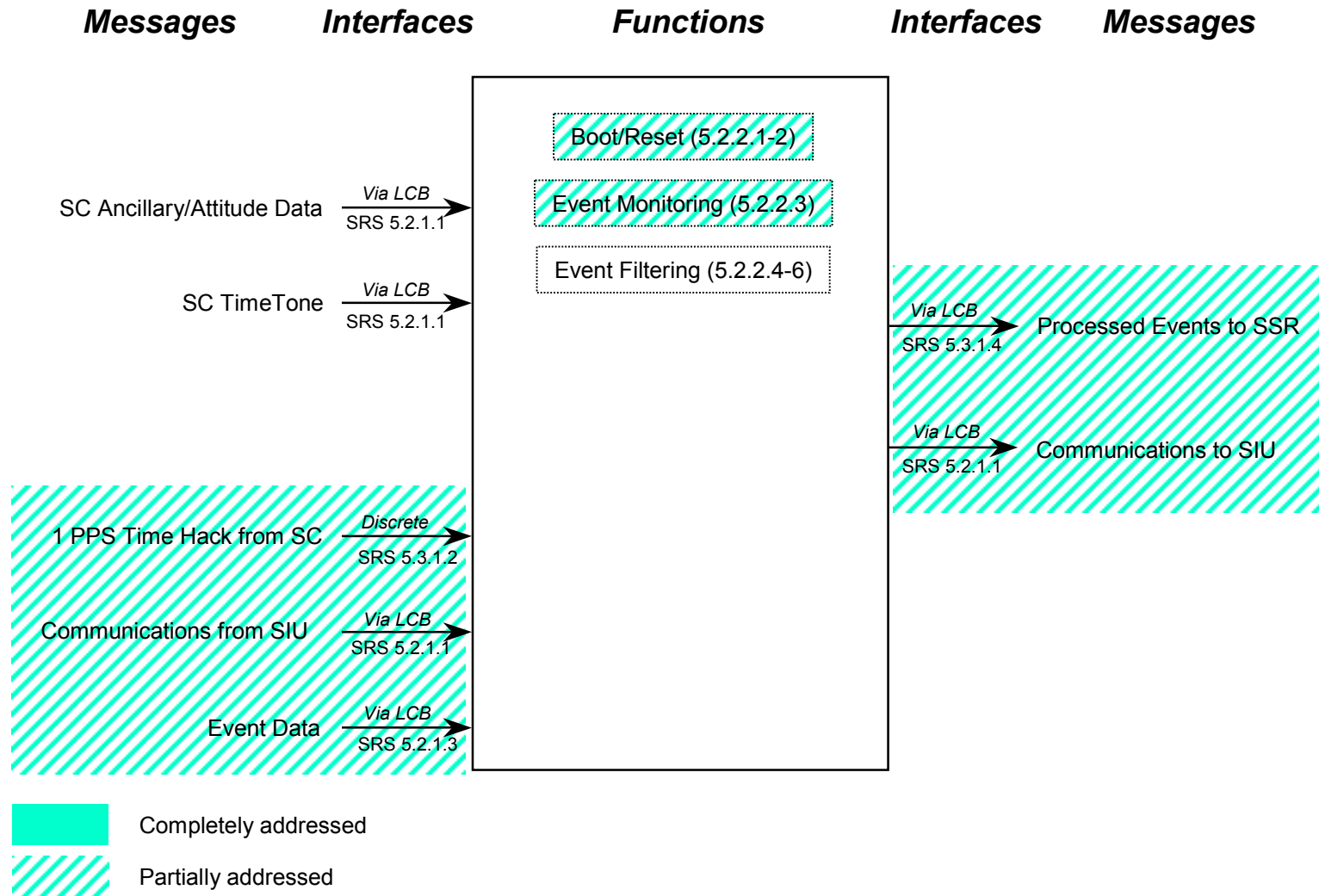


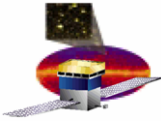
SIU FSW Requirements Mapping





EPU FSW Requirements Mapping





Moving Forward

- **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 in today's "Test" briefing by ISIS Lead Eric Hansen**
- **Monitor changes via FSW CCB**