GLAST Science Support Center Status

J.P. Norris

Old RFA's from 1st Peer Review

#	Author	Topic	Addressed
1	Marshall, Schweiss	Independent future GSSC Reviews	II – Development
8	Marshall, et al.	Incomplete requirements on GSSC: SSC changing timeline, orphan requirements	II – Development
11	Paciesas	GSSC products need ITAR review	II – Development
3	Marshall	Location of computers: BAP and GSSC operations	III – Ops
5	Digel	DTS concerns of LAT team	III – Ops
10	Paciesas	Need trade studies schedule, etc.	III – Ops
19	Schweiss	Ops Info Missing: Concept Document, Staffing Requirements, Users Guide	III – Ops
7	Marshall, Schweiss	Duplication of Level 0 archiving	V – Databases
14	Corcoran	Data staging disk space concern	V – Databases
15	Corcoran, Marshall	Database concerns: Tracking photons by processing version; data staging disk space sufficient for many large queries?	V – Databases
17	Digel	Plan for proprietary data contingency	V – Databases
2	Marshall	FTOOLs issues to resolve: multiplatform support, duplication of release	VI – User Sup.
8	Marshall, et al.	Incomplete requirements on GSSC: SSC changing timeline, orphan requirements	VI – User Sup.
13	Boyd, Shrader	GI support issues: schedule is tied to delivery of software and calibration products, helpdesk response time, PIMMS for simulation	VI – User Sup.
16	Shrader, Boyd	Two stage review is unnecessary	VI – User Sup.
2	Marshall	FTOOLs issues to resolve: multiplatform support, duplication of release	VII – SW Dev.
9	Paciesas, Shrader	Need formal software test plan and schedule, with independent test manager	VII – SW Dev.
12	Shrader, et al.	Archive interface HEASARC issues: which databases archived?	VII – SW Dev.

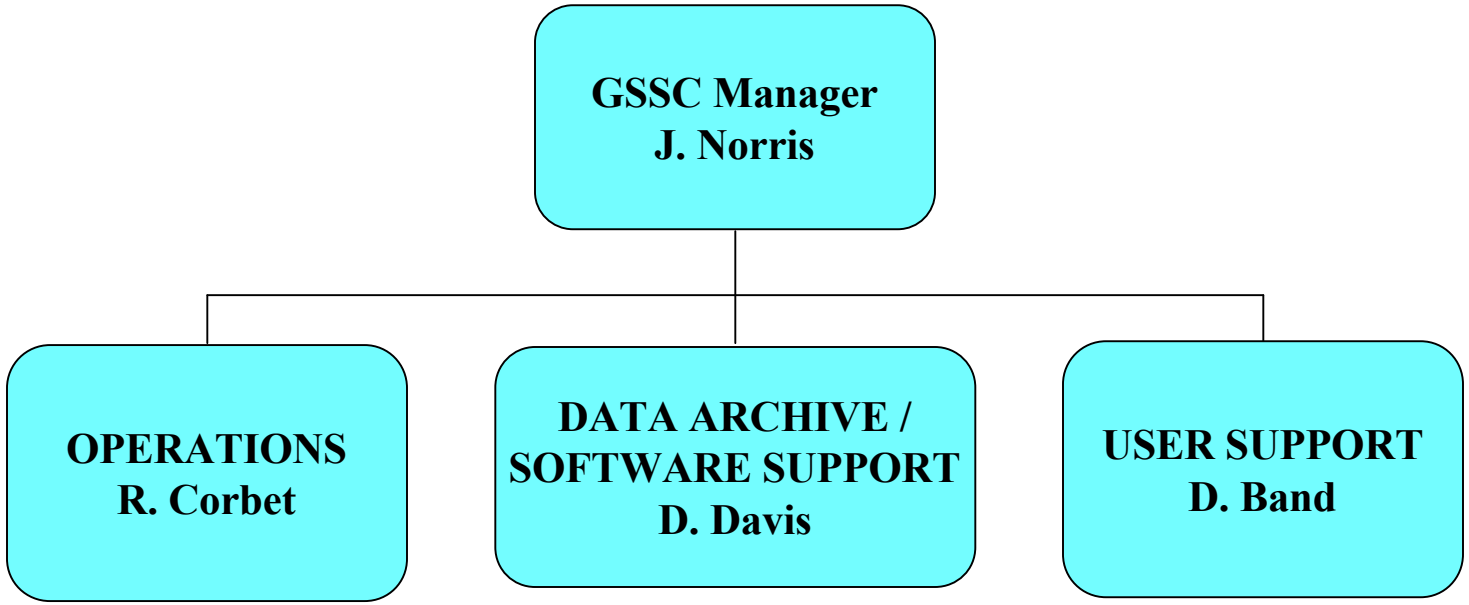
Reviews Relevant to GSSC

- Ground System Requirements Review (7/03)—Provided the driving requirements for the ground system and the operational design within which these requirements were derived.
- GSSC Peer Review (11/03)—Demonstrated that GSSC design is at PDR level.
- **GSSC Detailed Design Peer Review (7/04)—Demonstrate that GSSC design is at CDR level.**
- **Ground System Design Review (8/18-19/04)—Demonstrate that the requirements, interfaces and design are of sufficient maturity to begin ground system development.**
- Mission Operations Review (10/05)—Schedule and approach for achieving operational readiness.
- Operational Readiness Review (12/06)—Launch readiness of the Ground System.

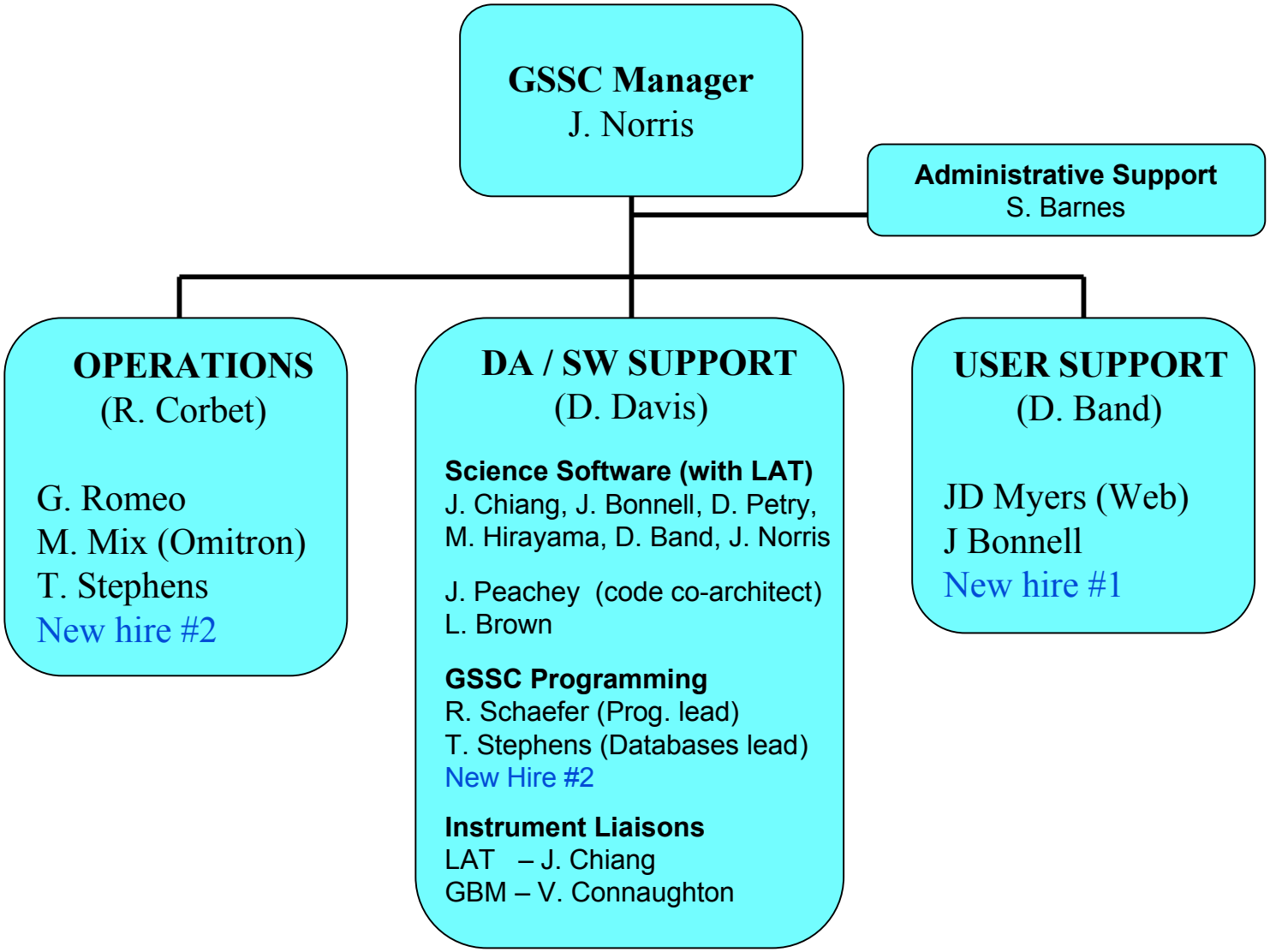
Major Items from Corcoran Notes, GSSC DDPR

- Tako needs augmentation to handle optimization of multiple targets in pointed (or dithered) observations — MOU deliverables and schedule agreed to with Omitron, Project.
- BAP downtime to be commensurate with GCN downtime (currently ~ 0.5%, level of "human error") — Bldg 2 plans being discussed to improve on emergency power for GCN, BAP.
- GSSC resources need to be devoted to installing, maintaining, validating the LAT backup pipeline; data volume to be handled is not yet well defined — Discussions ongoing with LAT team; Tom Stephens consulting on LAT pipeline implementation.
- Science and Operations Data Products ICDs are not complete — {MOC, LAT team, GBM team, GSSC} working on ICDs.
- Current sequence of timeline construction allows possibilities for "conflicts" — Ops splinter group formed (Jon Degumbia) …

GSSC Organization



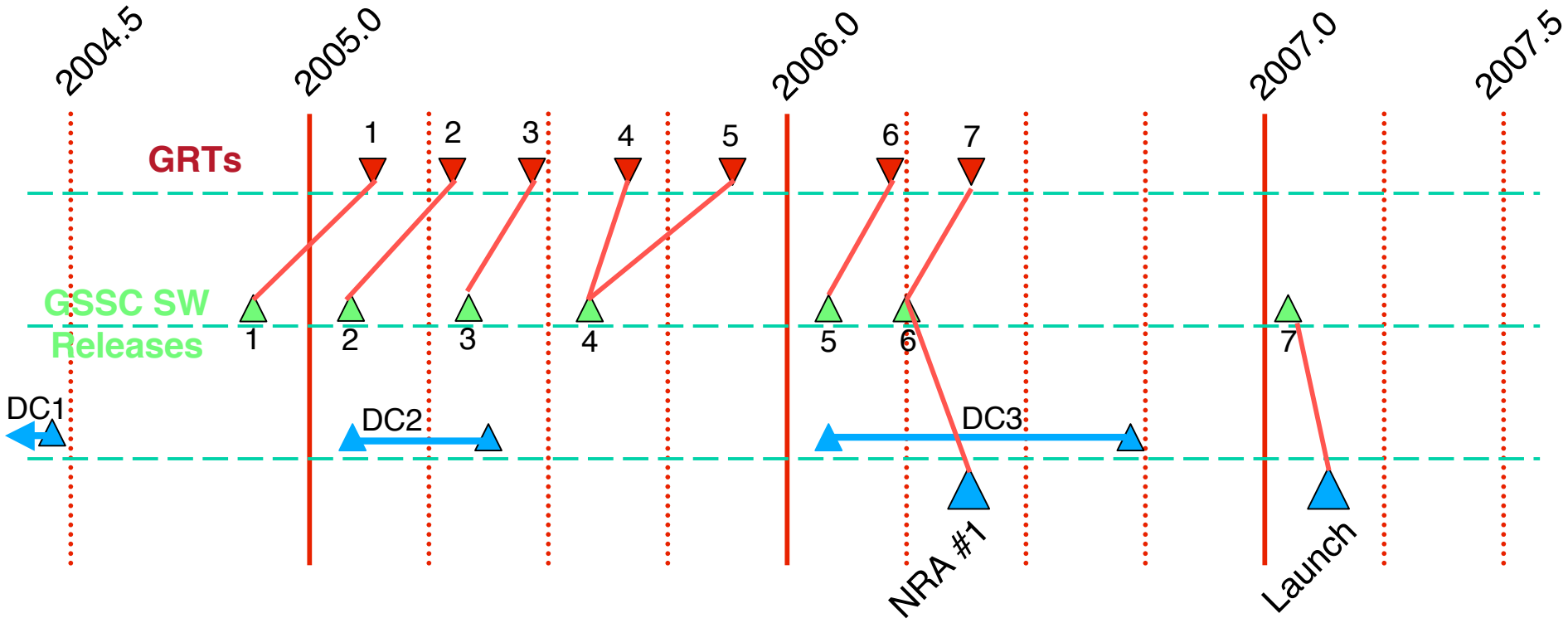
GSSC Organization



GSSC Staff Responsibilities

- Jay Norris — GSSC manager
- Scientists
  - Robin Corbet (75%) — Operations Section Manager
  - Dave Davis — Data Archive / SW Section Manager
  - David Band — User Support Section Manager
  - Masaharu Hirayama — LAT scientist; LAT pulsar tools
  - Jerry Bonnell — CALDB; LAT GRB tools
  - Dirk Petry — Test Manager; Catalogs; LAT science tools
  - Jim Chiang — LAT ambassador (@ SLAC); Likelihood tool
  - Valerie Connaughton — GBM ambassador (@ NSSTC); GBM tools
- Scientific Programmers
  - Bob Schaefer (75%) — GSSC Software Manager
  - James Peachey (75%) — Code Co-Architect (w/ LAT's Toby Burnett)
  - Tom Stephens — SAE & Ops Database Ingest
  - Guiseppe Romeo (50%) — Operations (Tako, Utilities)
  - Marilyn Mix (50%) — Operations (Tako, MOC interface)
  - Larry Brown (25%) — C++ Programmer, SAE SW
  - New Hire #1 — User Support (Proposal Tools & Databases)
  - New Hire #2 — Ingest Programmer; GSSC SW; Ops
- Support
  - Sandy Barnes (50%) — Administrative Assistant
  - JD Myers (50%) — Webmaster; User Support

GSSC SW Releases in GLAST Timeline

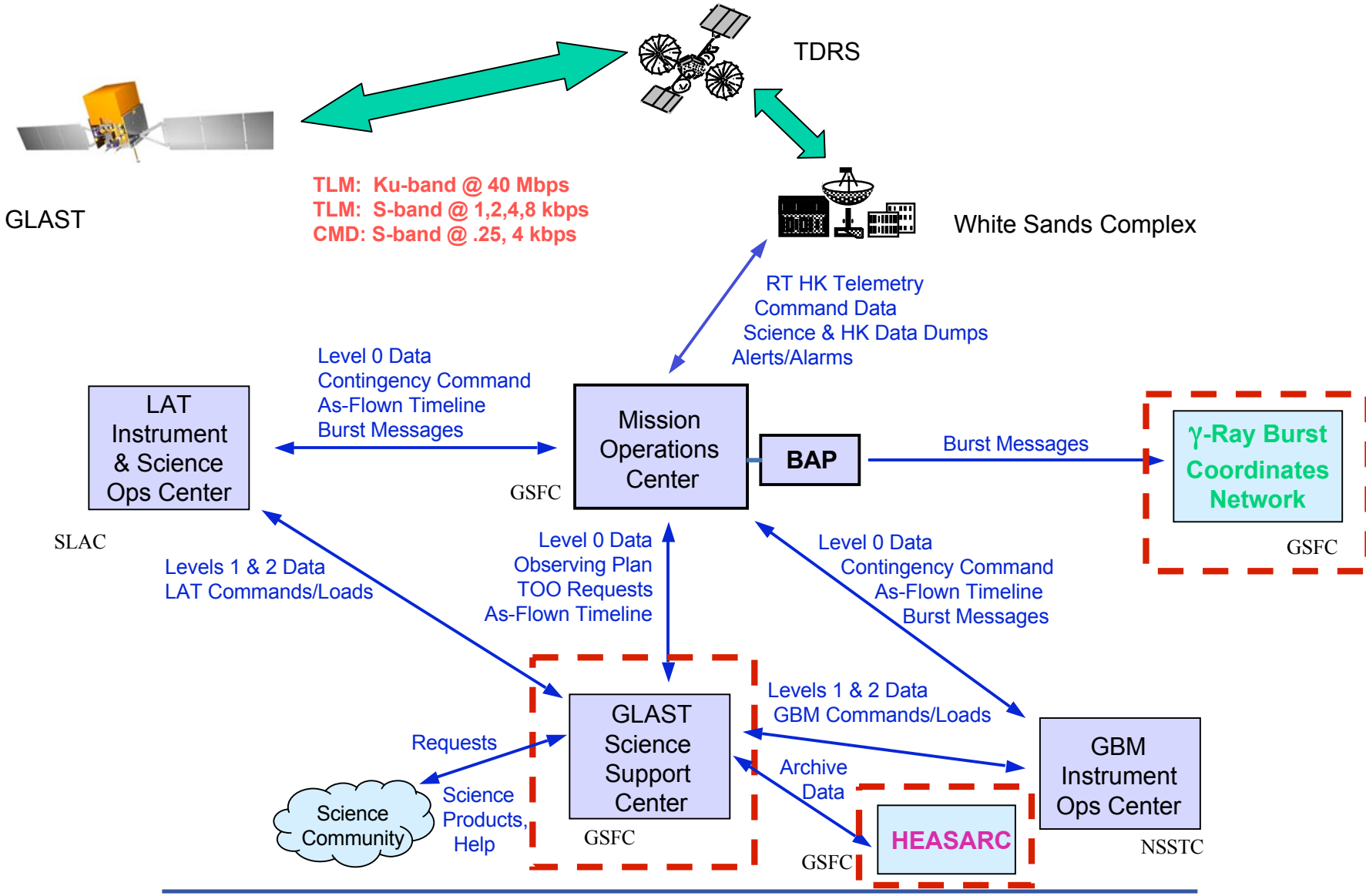


GSSC Software Releases

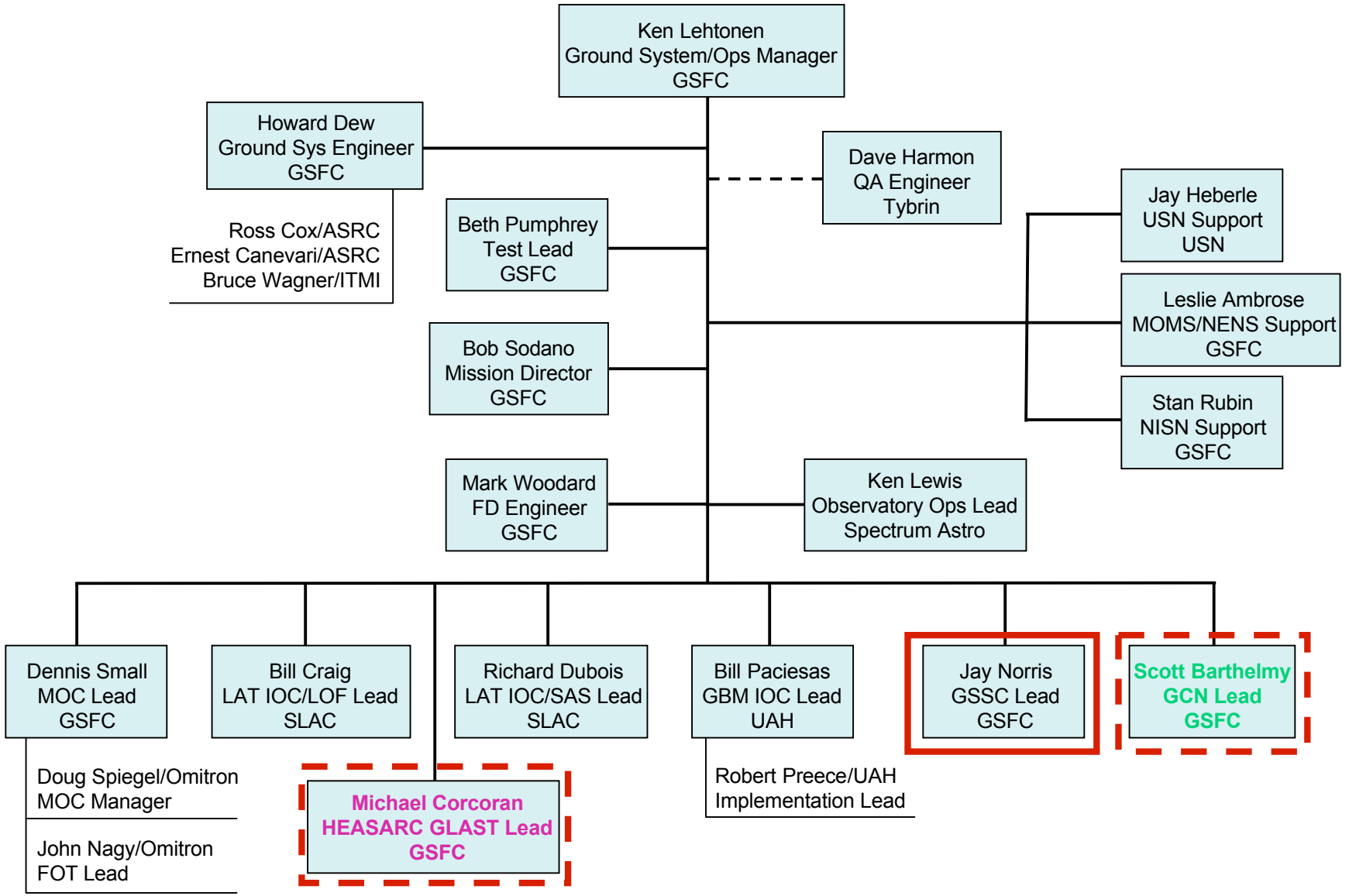
- Release 1 (11/15/04) [GRT 1 (02/15/05)]
  - Level 0 HSKP file transfers from MOC
- Release 2 (02/01/05) [GRT 2 (04/15/05)]
  - Commands from IOCs, Timelines to MOC, Project DB from MOC
- Release 3 (05/01/05) [GRT 3 (06/15/05)]
  - BAP Operations, Scheduling Tool, Ingest of integrated scheduling
- Release 4 (08/01/05) [GRT 4 (09/01/05) & 5 (11/15/05)]
  - Operations Planning Tools, Ingest Tools for Levels 1–3 data
- Release 5 (01/31/06) [GRT 6 (03/15/06)]
  - Backup Level 1 pipelines, TOO Tools, GI Support Tools
- Release 6 (04/03/06) [GRT 7 (05/15/06); NRA 1]
  - Ingest Tools for Notifications, SAA Updates, Pulsar Ephemerides; GI NRA Support Tools
- Release 7 (01/15/07) [Pre-Launch Check]
  - Cleanup; Website complete

Backups follow

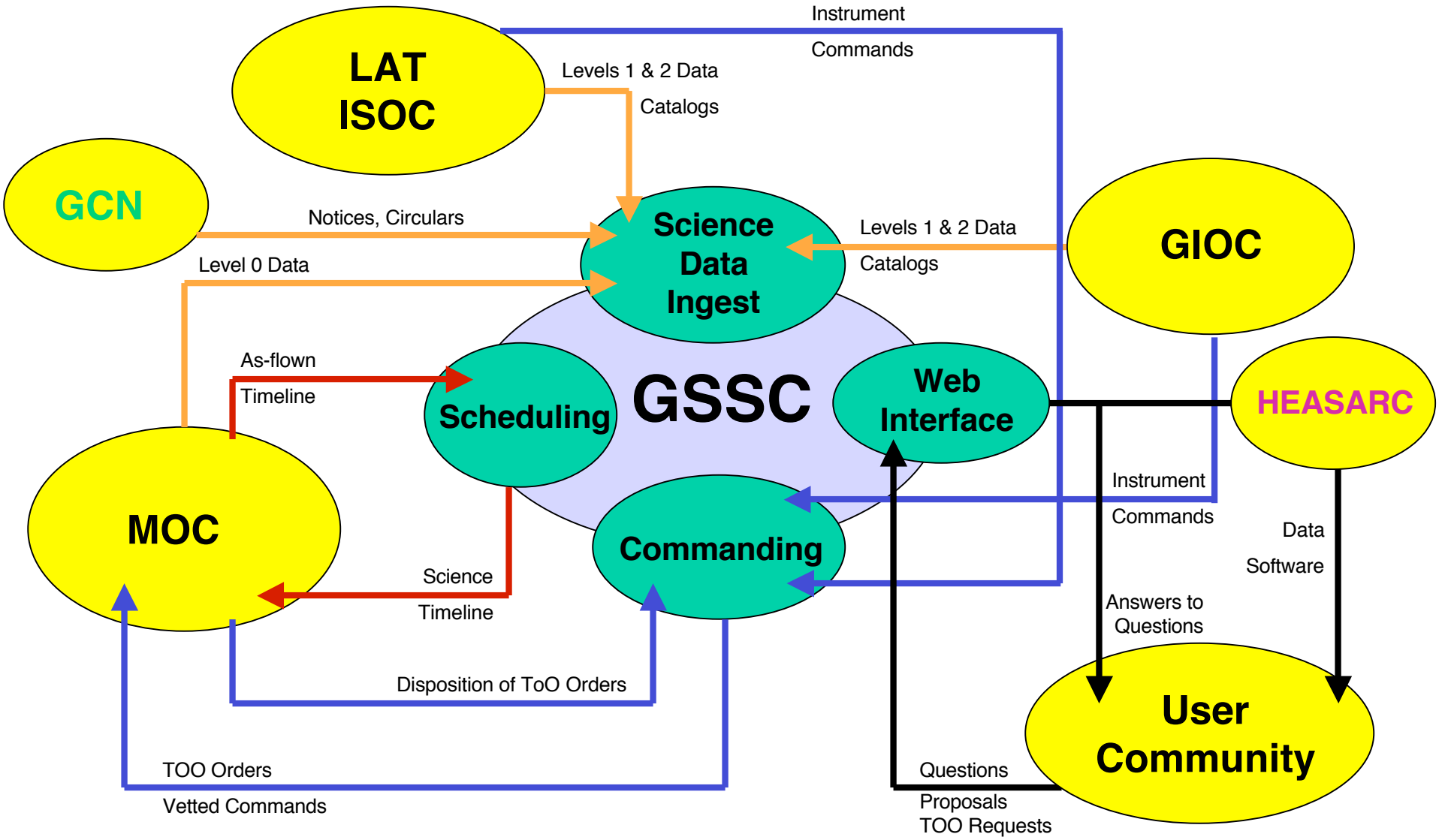
Mission Architecture



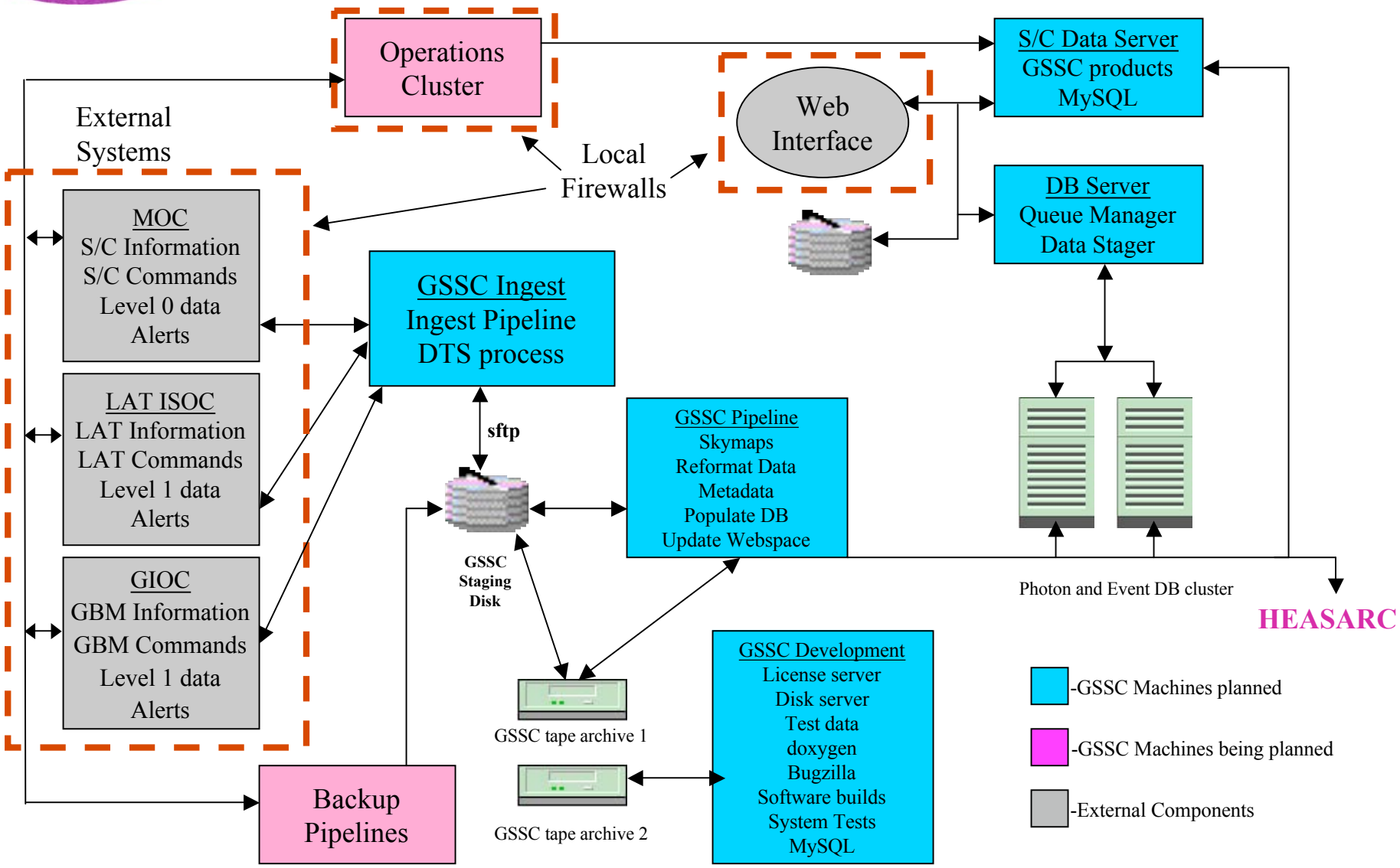
Ground System/Ops Organization



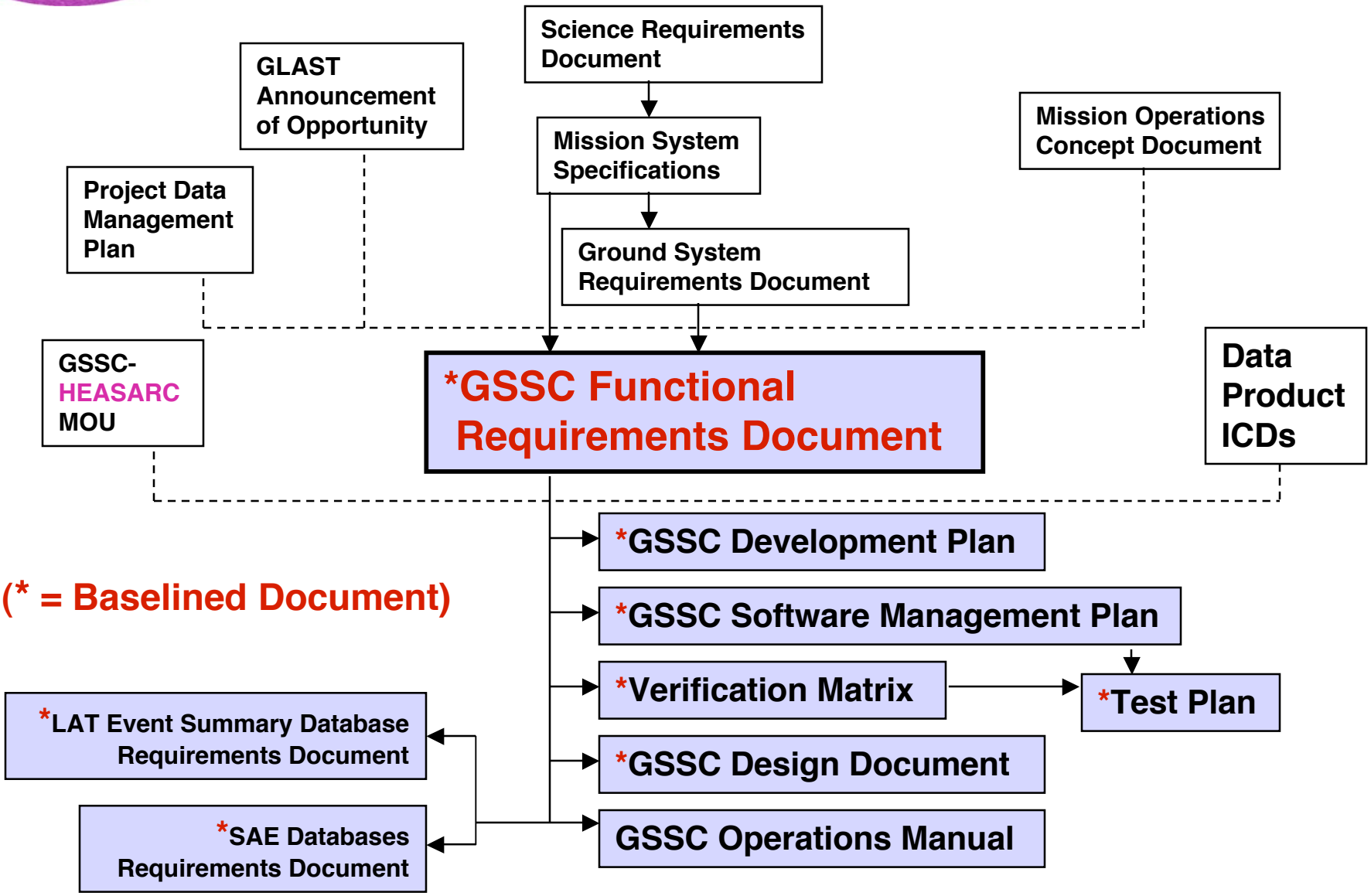
GSSC-Centric Communications / Data Flow



GSSC Computer Architecture



GSSC Document Tree



GSSC-Relevant Documents

Document	Purpose	Draft	Final	CCB
Project Data Management Plan	**Describes mission's flow of data; includes data policy statement. Maintained by User Support Manager. Reviewed; not signed.**	9/01	10/04	Project
GSSC Functional Requirements Document	**The GSSC's requirements. Written before Ground System Requirements Document; update has not yet been through CCB.**	9/01	10/04	Project
Science Data Products ICD	**Describes the science data products. Based on a 2 year-old working group report. The GSSC is the lead.**	10/03	10/04	Ground System
Operations Data Products ICD	**Describes the operations data products that will be exchanged among the MOC, IOCs and GSSC. The MOC is the lead.**	10/03	10/04	Ground System
GSSC-HEASARC MOU	**MOU establishing mutual GSSC and HEASARC requirements. GSSC is lead.**	9/02	7/04	Ground System
The Standard Analysis Environment for LAT Data	**Defines the tools and software environment for the scientific analysis of LAT data. Developed by GSSC-LAT Software Working Group.**	9/02	3/04 3/05 9/06	LAT team
LHEA IT Security Plan	**Establishes the IT security plan for LHEA**	NA	NA	LHEA

Internal GSSC Documents

Document	Purpose	Status, Owner
GSSC Development Plan (GSSC-0001)	**Plan for developing the GSSC and its software**	**Baselined 7/04, D. Band**
GSSC Verification Matrix (GSSC-0002)	**Matrix tracking GSSC compliance with its requirements**	**Baselined 7/04, D. Petry**
GSSC Design Document (GSSC-0003)	**Design of the GSSC and its systems. Includes descriptions of hardware and GSSC-specific software**	**Baselined 7/04, R. Schaefer**
GSSC Software Management Plan (GSSC-0004)	**Plan for developing and managing the GSSC's software**	**Baselined 7/04, R. Schaefer**
GSSC Test Plan (GSSC-0005)	**Plan for testing GSSC's functions, particularly software**	**Baselined 7/04, T. Stephens**
GSSC Operations Manual	**Plan for the GSSC's operation**	**To be developed for ORR**
LAT Event Summary DB Req. Document (GSSC-0006)	**Requirements for the database from which lists of LAT photons will be extracted**	**Baselined 7/04, R. Schaefer**
Science Tools DBs Req. Document (GSSC-0007)	**Requirements for all other databases associated with the Standard Analysis Environment**	**Baselined 7/04, R. Schaefer**
Informal documents on GSSC internal website: memos, white papers, etc.		

▸ ***These documents are under internal CM.***