LAT Instrument Configuration
Technical Interchange Meeting

Introduction / Roadmap

Neil Johnson

Objectives

- **Educate user community of flight software**
  - **Description of LAT configuration elements in FSW and tools that have been developed to define and manage FSW configuration elements**
- **Complete a plan with assigned responsibilities for development and management of LAT configuration**
  - **Define configurable item representations, partitions – registers, tables, calibration, software parameters**
  - **Define interdependencies and responsibilities**
  - **Develop implementation plan**
- **Develop path forward from current LATTE 4x to mission operations**
  - **Operations Concept document – working group**
  - **Identify and apply needed additional resources**
  - **Develop plan for incremental transition to full system test environment including needed ground software component and LAT and/or TestBed configuratons.**

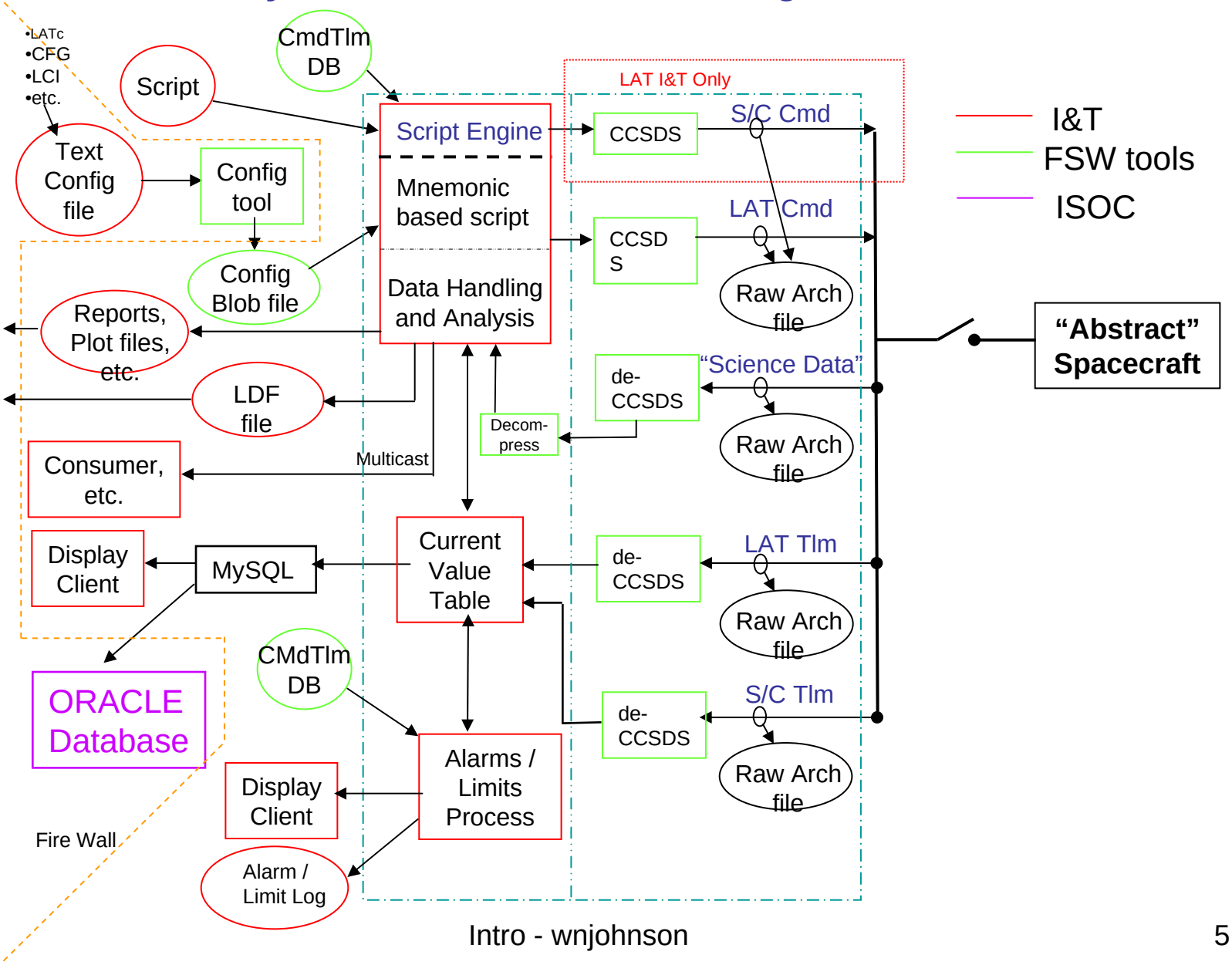
Agenda / Presentations

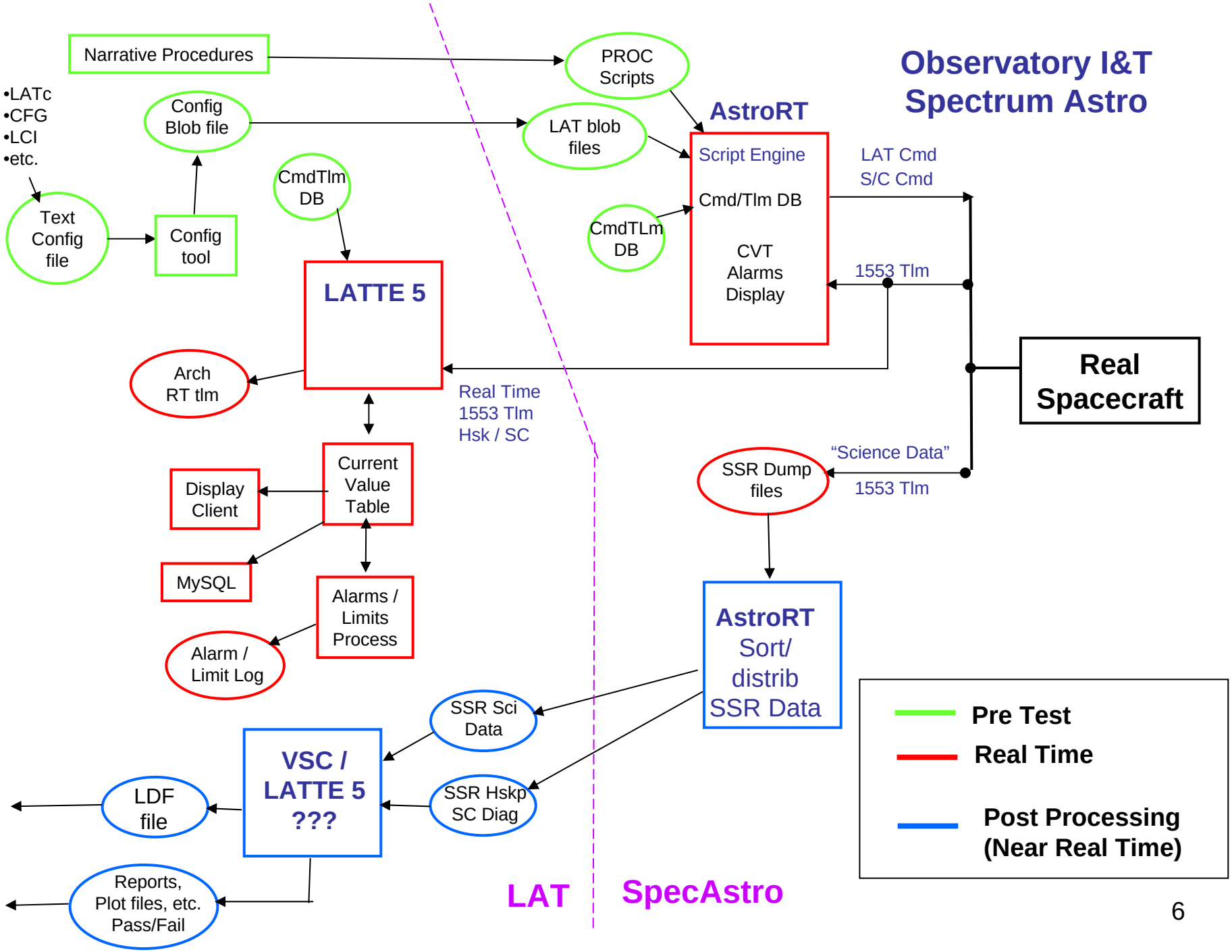
Introduction / Roadmap	Neil Johnson
LAT Configuration and Config Mgmt - Education	
File Management Overview	Tony Waite
LAT Configuration	James Swain
Filter Configuration	J J Russell
LATTE 5 Development Plans and FSW Interdependencies	Ric Claus
Organization of Configuration	
Configuration Issues	Pat Hascall
LATTE Configurations - Current, Issues and Plans	Lester Miller
ISOC Mission Planning & LAT Configurations	Bryson Lee
Roadmap - General Discussion	
ISOC Candidate Procedures	Lori Bator

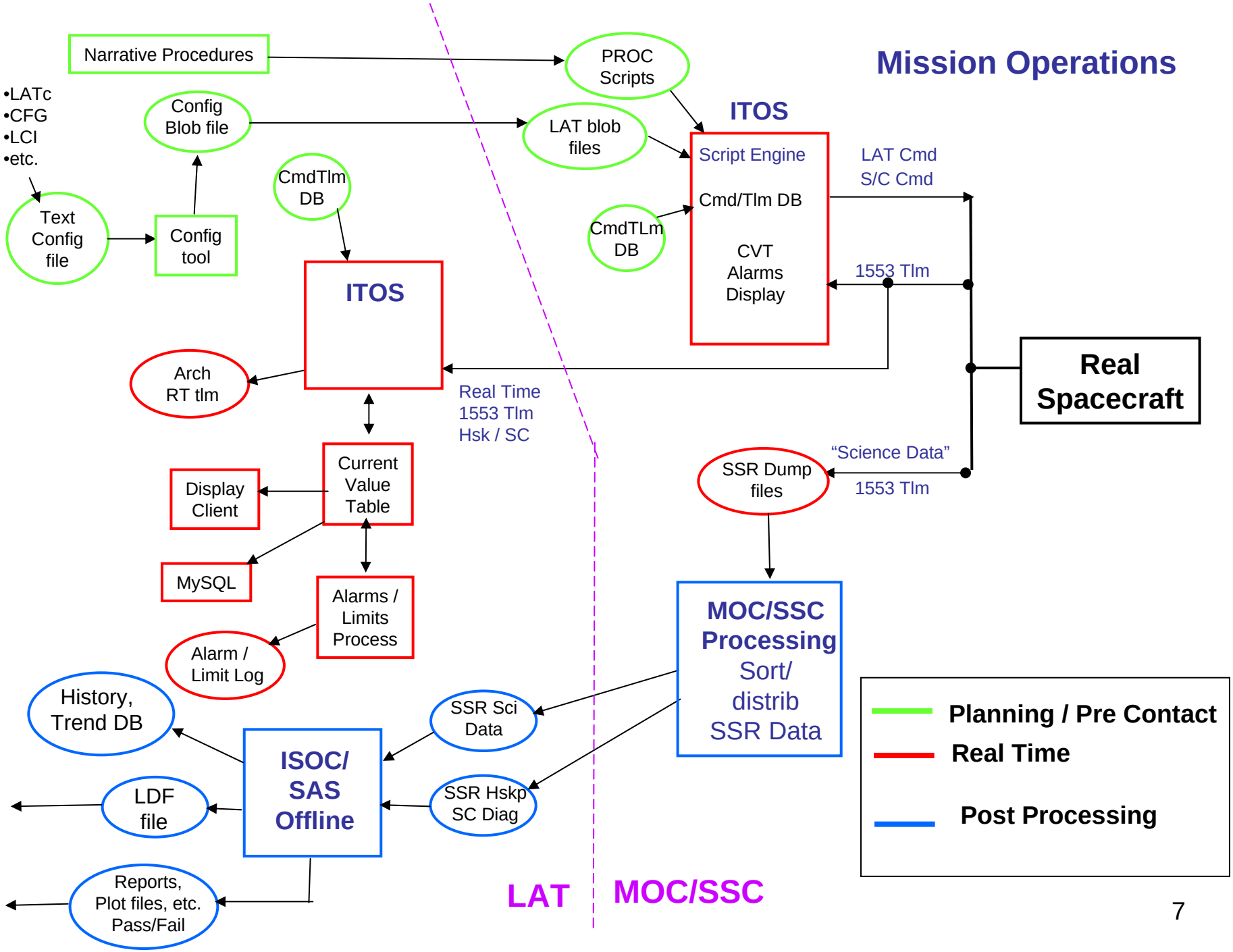
Test and Operations Environments

- **Tower Integration and Test – Bldg 33**
  - **LATTE 4x, highly interactive cmd – response, real-time analysis,**
  - **High bandwidth cmd and tlm interfaces**
- **System Test – Bldg 33**
  - **Addition of FSW features and limitations**
  - **New, more complex configuration definition, management**
  - **Data packaging and transport complexity**
- **Environmental Test – NRL**
  - **Same as system test except restricted use of high bandwidth "backdoor" diagnostics**
  - **Remote site requires portable databases, compute resources. Potential for delay in delivery of data to SLAC pipeline processing. Network connectivity.**
- **Spectrum Astro**
  - **Procedure scripts no longer run on LAT equipment. LATTE can only eavesdrop on 1553 hskping.**
  - **Post processing of sci data / hskp data from SSR dumps to LAT.**
  - **"Backdoor" only for failure/problem diagnostics**
- **Mission Operations**
  - **Similar to SpectrumAstro except planning and config items needed well in advance (weeks?) of activation**

LAT System Test Environment, Bldg 33




Observatory I&T
Spectrum Astro
Narrative Procedures
PROC Scripts
•LATc
•CFG
•LCI
•etc.
Config Blob file
LAT blob files
AstroRT
Script Engine
Cmd/Tlm DB
CVT
Alarms
Display
LAT Cmd
S/C Cmd
1553 Tlm
CmdTlm DB
CmdTLm DB
Text Config file
Config tool
LATTE 5
Arch RT tlm
Real Time
1553 Tlm
Hsk / SC
Real Spacecraft
Current Value Table
Display Client
MySQL
Alarms / Limits Process
Alarm / Limit Log
"Science Data"
1553 Tlm
SSR Dump files
AstroRT
Sort/
distrib
SSR Data
SSR Sci Data
SSR Hskp SC Diag
VSC / LATTE 5 ???
LDF file
Reports, Plot files, etc. Pass/Fail
LAT
SpecAstro
Pre Test
Real Time
Post Processing
(Near Real Time)


Mission Operations
Narrative Procedures
PROC Scripts
•LATc
•CFG
•LCI
•etc.
Config Blob file
LAT blob files
ITOS
Script Engine
Cmd/Tlm DB
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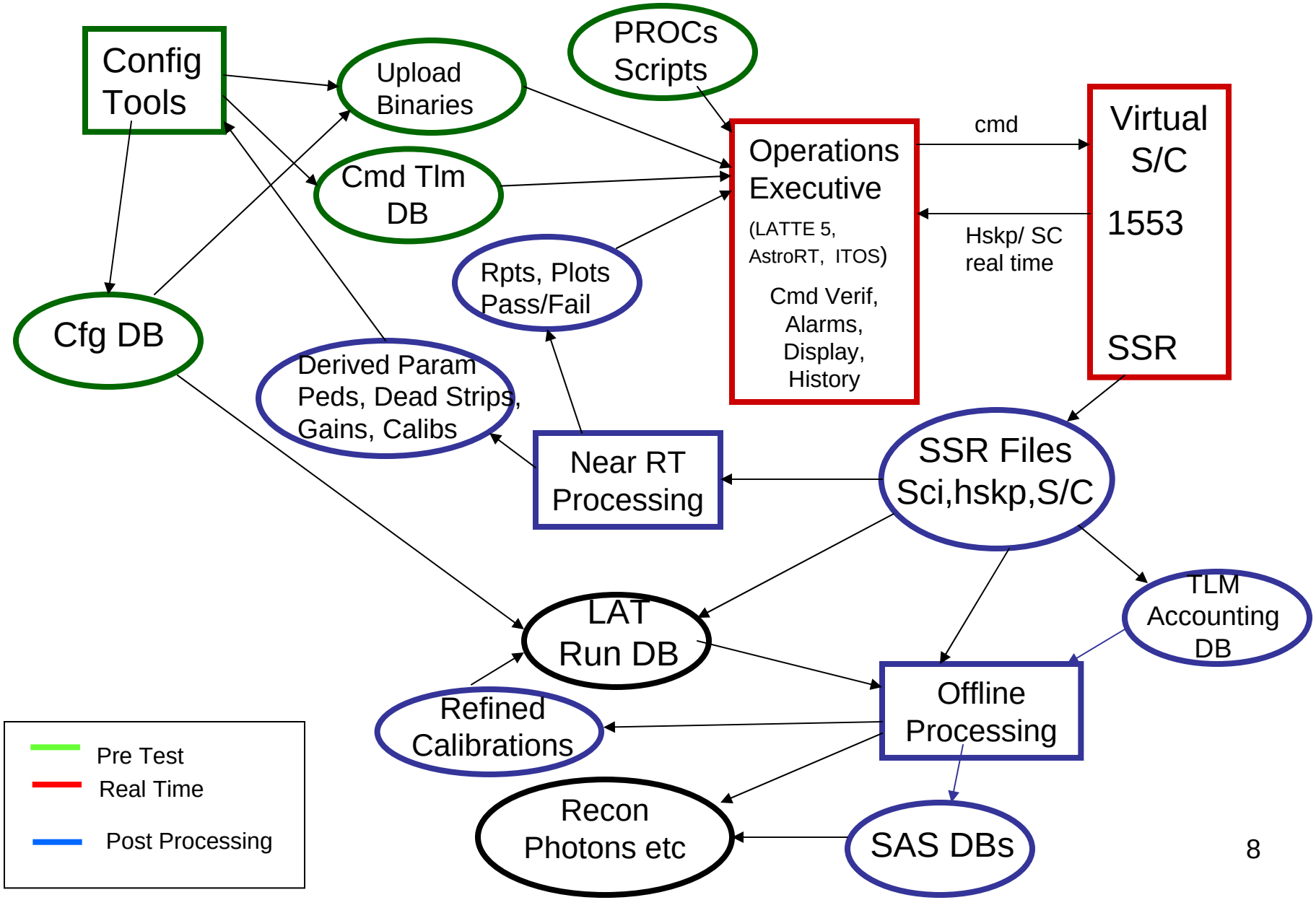
Current Value Table
Display Client
"Science Data"
SSR Dump files
1553 Tlm
MySQL
Alarms / Limits Process
Alarm / Limit Log
MOC/SSC Processing
Sort/ distrib SSR Data
History, Trend DB
SSR Sci Data
ISOC/ SAS Offline
LDF file
SSR Hskp SC Diag
Reports, Plot files, etc. Pass/Fail
LAT
MOC/SSC
Planning / Pre Contact
Real Time
Post Processing

ISOC / I&T/ SAS Conceptual Relationships



Today's Work

- **LAT Configuration Management and associated tools are common to all configurations – get this component ready for System Test in October**
  - **Understand elements of LAT configuration**
  - **Understand existing tools for configuring LAT and managing associated files on ground and in LAT**
  - **Merge I&T and FSW configuration descriptions**
  - **Define, partition configurable items**
  - **Assign responsibilities, plan incremental build**
  - **Enlist ISOC in the development of management infrastructure and databases with support from FSW, I&T and SAS.**

Milestones

- **Checkout of the flight configuration** **Oct 1, 2005**
  - **Flight Software release**
  - **Instrument in flight configuration**
    - Engineering model computer modules
  - **GSE and supporting infrastructure “flight like”**
- **Ground Readiness Test #3** **~Oct 1, 2005**
  - **Flow / process science data (lvl 0)**
- **Instrument completely assembled** **Dec 1, 2005**
- **Instrument shipped to NRL** **Jan 15, 2006**
  - **Environmental test**
  - **GSE and procedures in place**
- **Delivery of Narrative Procedures to SASS** **Mar 1, 2006**
- **Instrument shipped to GD/SASS** **May 1, 2006**