GLAST Large Area Telescope

Instrument Flight Software Development Team

Functional Demonstration
December 3, 2004

Stanford Linear Accelerator Center

Demonstration Agenda

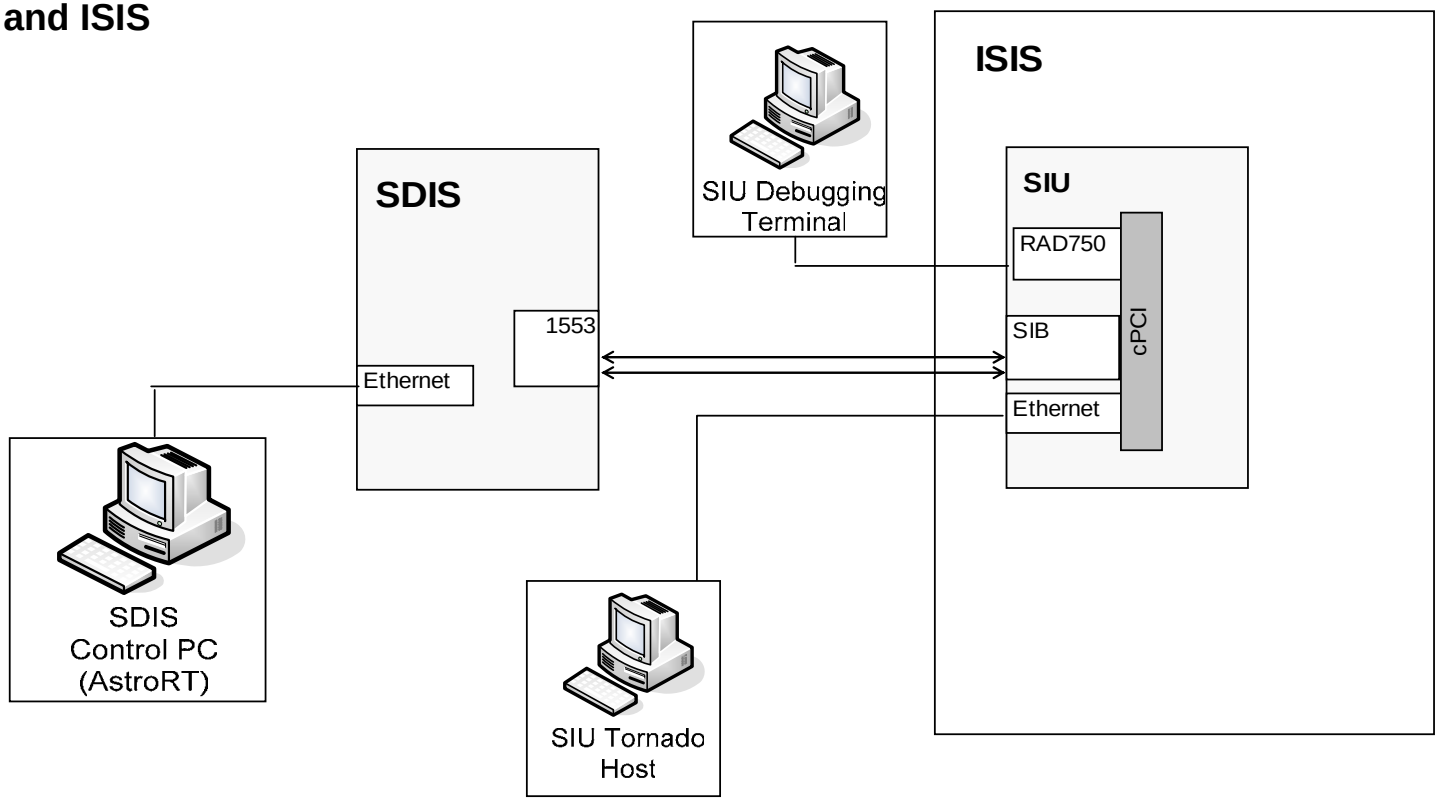
Demo Agenda Item	Presenter
1. Overview of the Demonstration	Lawrence Jeung
2. Memory Management	Lawrence Jeung
3. Questions from Attendees	NA

Demonstration Overview

- **Today's demo covers Memory Management:**
  - **6 of 7 memory management requirements will be fully demonstrated**
    - **The remaining EPU-specific requirement will be shown later this month**
  - **The Memory Management FSW is capable of:**
    - **Operating during boot and after boot**
    - **Dumping the contents of memory**
    - **Loading values directly to memory**
    - **Dumping status information about the available memory pools**
    - **Canceling dumps**
- **13 file management requirements and 6 command processing requirements scheduled for today will be fully demonstrated later this month**

Hardware Context for the Demonstrations

The demonstrations are run on the SDIS and ISIS



Memory Management Demo: Memory Dumps

- **Dumping Memory Contents:**
  - **5.3.7.12.1.2: SIU Memory Dumps: After entering the boot shell, the SIU shall be commandable from the ground to perform memory dumps.**
  - **5.3.7.12.1.3: Memory Dump Data: Upon receipt of a command to perform a memory dump, the FSW shall transmit the requested data to the spacecraft via the CTDB.**
  - **5.3.7.12.1.4: Memory Dump Cancel: The FSW shall process a command to cancel a memory dump.**
  - **Later this month, 5.3.7.12.1.1 EPU Memory Dumps will be demonstrated. This is the last Memory Management requirement to demonstrate.**

- **During the demo**
  - **Memory management operations during boot and after boot will be demonstrated**
  - **The demo uses the LMEMDUMPMEM, LMEMDUMPCANCEL telecommands, issued from the SDIS**
  - **AstroRT displays are used to show the telemetry that reports the effects of these commands**

Memory Management Demo: Memory Loads

- **Writing to Memory**
  - **5.3.7.12.1.5: Memory Loads: In order to perform memory writes, the SIU FSW shall process commands, from the SC via the CTDB, that include unit identifier, memory address, memory size, and memory data.**
  - **5.3.7.12.1.6: Memory Load Data: Load data shall consist of telecommand packet sequences that contain configuration tables, software loads, and command scripts.**

- **During the demo:**
  - **Again, memory loads during and after boot will be demonstrated**
  - **The LMEMLOADMEM command will be used and results will be shown in telemetry.**

Memory Management Demo: Memory Pool Status

- **Reporting Information about Memory Pools:**
  - **5.3.7.11: Memory Pool Status Dump: The FSW shall receive as input, from the spacecraft via the CTDB, a command to return information on the memory pool for a specified unit and memory pool.**

- **During the demo:**
  - **The LMEMDUMPPOOL command is used after boot is complete**