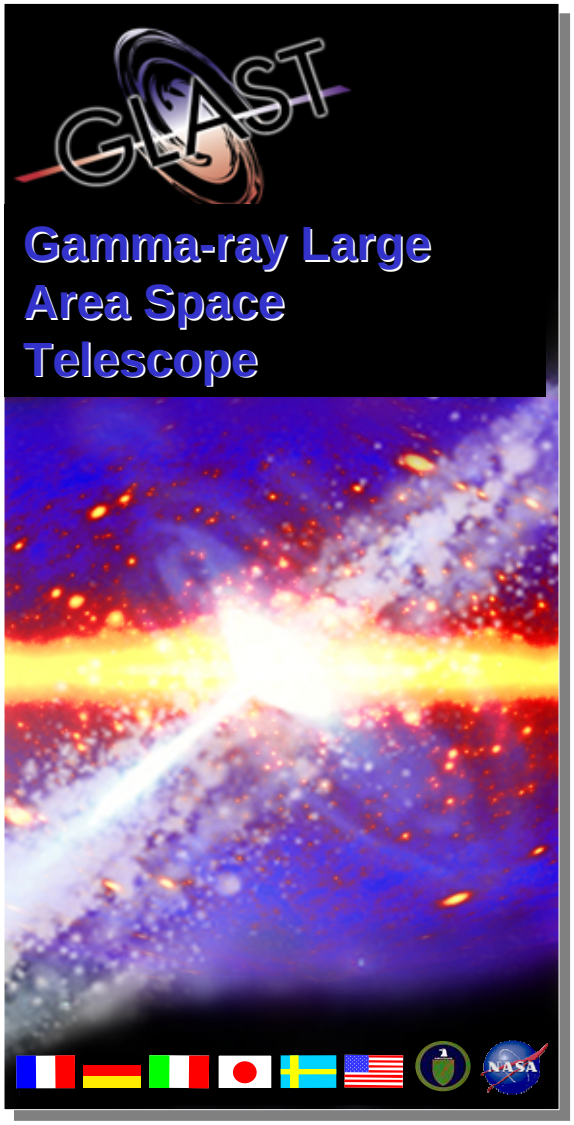

GLAST Large Area Telescope

Instrument Flight Software Development Team

Functional Demonstration
April 22, 2005

Stanford Linear Accelerator Center

Demonstration Agenda

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

Demonstration Overview

- Today's demo covers the Software Watchdog
- The Software Watchdog:
  - Implemented in the MON package
  - Provides the IDLE task:
    - Periodically strobes the watchdog timer
    - Has the lowest possible priority
      - If the CPU is busy performing other tasks, then the watchdog timer will not get strobed
      - If the CPU is busy for more than 10 seconds, then the watchdog timer will reboot the CPU
  - Addresses Requirements:
    - 5.3.2 (Watchdog): Once booting of a unit is complete, the FSW shall provide a heartbeat to a hardware watchdog frequently enough so that an implemented "timeout period" is not exceeded. The watchdog reboots the unit if the heartbeat is not received within the timeout period.
    - 5.3.2.1 (Watchdog "Timeout Period"): The "timeout period" shall be less than or equal to 10 seconds.

Demonstration Overview (2)

- **The demo:**
  - **Stops the heartbeat**
  - **Slows the heartbeat**

Hardware Context for the Demonstration

•The demonstration is run using an Spacecraft crate (mv2304) and an SIU crate (RAD750)