With this new software, MaROS now fully integrates the Mars Express spacecraft into the relay picture. This new software generates and manages a new set of file formats that allows for relay request to MEX for forward and return link relay, including the parameters specific to MEX.

Existing MEX relay planning interactions were performed via email exchanges and point-to-point file transfers. By integrating MEX into MaROS, all transactions are managed by a central-ized service for tracking and analysis. Additionally, all lander missions have a single, shared interface with MEX and do not have to integrate on a mission-by-mission basis.

Relay is a critical element of Mars lander data management. Landed assets depend largely upon orbital relay for data delivery, which can be impacted by the availability and health of each orbiter in the network. At any time, an issue may occur to prevent relay. For this reason, it is imperative that all possible orbital assets be integrated into the overall relay picture.

This work was done by Daniel A. Allard, Michael N. Wallick, Roy E. Gladden, and Paul Wang of Caltech for NASA's Jet Propulsion Laboratory. Further information is contained in a TSP (see page 1).

This software is available for commercial licensing. Please contact Daniel Broderick of the California Institute of Technology at danielb@caltech.edu. Refer to NPO-48345.

FERMI/GLAST Integrated Trending and Plotting System Release 5.0

Goddard Space Flight Center, Greenbelt, Maryland

An Integrated Trending and Plotting System (ITPS) is a trending, analysis, and plotting system used by space missions to determine performance and status of spacecraft and its instruments. ITPS supports several NASA mission operational control centers providing engineers, ground controllers, and scientists with access to the entire spacecraft telemetry data archive for the life of the mission, and includes a secure Web component for remote access.

FERMI/GLAST ITPS Release 5.0 features include the option to display dates (*yyyy/ddd*) instead of orbit numbers along orbital Long-Term Trend (LTT) plot axis, the ability to save statistics from daily production plots as image files, and removal of redundant "edit/create Input Definition File (IDF)" screens. Other features are a fix to address invalid packet lengths, a change in naming convention of image files in order to use in script, the ability to save all ITPS plot images (from Windows or the Web) as GIF or PNG format, the ability to specify y_{min} and y_{max} on plots where previously only the desired range could be specified, Web interface capability to plot IDFs that contain out-of-order page and plot numbers, and a fix to change all default file names to show *yyyy-dddhhmmss* time stamps instead of *hh-mmssdddyyyy*.

A Web interface capability sorts files based on modification date (with newest one at top), and the statistics block can be displayed via a Web interface. Via the Web, users can graphically view the volume of telemetry data from each day contained in the ITPS archive in the Web digest.

The ITPS could be also used in non-space fields that need to plot data or trend data, including financial and banking systems, aviation and transportation systems, healthcare and educational systems, sales and marketing, and housing and construction.

This work was done by Sheila Ritter of Goddard Space Flight Center, and Haim Brumer and Denise Reitan of Honeywell Technology Solutions. Further information is contained in a TSP (see page 1). GSC-15974-1

Where's My Data — WMD

NASA's Jet Propulsion Laboratory, Pasadena, California

WMD provides a centralized interface to access data stored in the Mission Data Processing and Control System (MPCS) GDS (Ground Data Systems) databases during MSL (Mars Science Laboratory) Testbeds and ATLO (Assembly, Test, and Launch Operations) test sessions. The MSL project organizes its data based on venue (Testbed, ATLO, Ops), with each venue's data stored on a separate database, making it cumbersome for users to access data across the various venues.

WMD allows sessions to be retrieved through a Web-based search using several criteria: host name, session start date, or session ID number. Sessions matching the search criteria will be displayed and users can then select a session to obtain and analyze the associated data.

The uniqueness of this software comes from its collection of data retrieval and analysis features provided through a single interface. This allows users to obtain their data and perform the necessary analysis without having to worry about where and how to get the data, which may be stored in various locations. Additionally, this software is a Web application that only requires a standard browser without additional plug-ins, providing a cross-platform, lightweight solution for users to retrieve and analyze their data.

This software solves the problem of efficiently and easily finding and retrieving data from thousands of MSL Testbed and ATLO sessions. WMD allows the user to retrieve their session in as little as one mouse click, and then to quickly retrieve additional data associated with the session.

This work was done by William L. Quach, Tadas Sesplaukis, Kyran J. Owen-Mankovich, and Lori L. Nakamura of Caltech for NASA's Jet Propulsion Laboratory. For more information, contact iaoffice@jpl.nasa.gov.

This software is available for commercial licensing. Please contact Daniel Broderick of the California Institute of Technology at danielb@caltech.edu. Refer to NPO-48362.