the documentation is complete and accurate. Much of the configuration information can be documented in the DDMS through pull-down forms to ensure consistent entries by the engineers and technicians in the field.

The software also can electronically route the documents through the signature process to obtain the necessary approvals needed for work authorization. The workflow of the system allows for backups and timestamps that determine the correct routing and completion of all required authorizations in a more timely manner, as well as assuring the quality and accuracy of the configuration documents.

This program was written by Elizabeth Messer and Brad Messer of Stennis Space Center, Judy Carter of Computer Sciences Corp., Todd Singletary of Lockheed Martin, Colby Albasini of SAITECH, and Tammy Smith of ERC Incorporated.

Inquiries concerning rights for the commercial use of this invention should be addressed to the Intellectual Property Manager at Stennis Space Center (228) 688-1929. Refer to SSC-00208-1, volume and number of this NASA Tech Briefs *issue, and the page number.*

Simple, Script-Based Science Processing Archive

The Simple, Scalable, Script-based Science Processing (S4P) Archive (S4PA) is a disk-based archival system for remote-sensing data. It is based on the data-driven framework of S4P and is used for data transfer, data preprocessing, metadata generation, data archive, and data distribution. New data are automatically detected by the system.

S4P provides services such as data access control, data subscription, metadata publication, data replication, and data recovery. It comprises scripts that control the data flow. The system detects the availability of data on an FTP (file transfer protocol) server, initiates data transfer, preprocesses data if necessary, and archives it on readily available disk drives with FTP and HTTP (Hypertext Transfer Protocol) access, allowing instantaneous data access. There are options for plug-ins for data preprocessing before storage. Publication of metadata to external applications such as the Earth Observing System Clearinghouse (ECHO) is also supported.

S4PA includes a graphical user interface for monitoring the system operation and a tool for deploying the system. To ensure reliability, S4P continuously checks stored data for integrity, Further reliability is provided by tape backups of disks made once a disk partition is full and closed. The system is designed for low maintenance, requiring minimal operator oversight.

This work was done by Christopher Lynnes, Mahabaleshwara Hegde, and C. Wrandle Barth of Goddard Space Flight Center. Further information is contained in a TSP (see page 1). GSC-15040-1

Automated Rocket Propulsion Test Management

The Rocket Propulsion Test-Automated Management System provides a central location for managing activities associated with Rocket Propulsion Test Management Board, National Rocket Propulsion Test Alliance, and the Senior Steering Group business management activities. A set of authorized users, both on-site and off-site with regard to Stennis Space Center (SSC), can access the system through a Web interface. Web-based forms are used for user input with generation and electronic distribution of reports easily accessible.

Major functions managed by this software include meeting agenda management, meeting minutes, action requests, action items, directives, and recommendations. Additional functions include electronic review, approval, and signatures. A repository/library of documents is available for users, and all items are tracked in the system by unique identification numbers and status (open, closed, percent complete, etc.). The system also provides queries and version control for input of all items.

This program was written by Ian Walters of SaiTech and Cheryl Nelson and Helene Jones of Computer Sciences Corporation for Stennis Space Center.

Inquiries concerning rights for the commercial use of this invention should be addressed to the Intellectual Property Manager, Stennis Space Center, (228) 688-1929. Refer to SSC-00250, volume and number of this NASA Tech Briefs *issue, and the page number.*

Online Remote Sensing Interface

BasinTools Module 1 processes remotely sensed raster data, including multi- and hyper-spectral data products, via a Web site with no downloads and no plug-ins required. The interface provides standardized algorithms designed so that a user with little or no remote-sensing experience can use the site. This Web-based approach reduces the amount of software, hardware, and computing power necessary to perform the specified analyses. Access to imagery and derived products is enterprise-level and controlled. Because the user never takes possession of the imagery, the licensing of the data is greatly simplified.

BasinTools takes the "just-in-time" inventory control model from commercial manufacturing and applies it to remotely-sensed data. Products are created and delivered on-the-fly with no human intervention, even for casual users. Well-defined procedures can be combined in different ways to extend verified and validated methods in order to derive new remote-sensing products, which improves efficiency in any well-defined geospatial domain. Remote-sensing products produced in BasinTools are self-documenting, allowing procedures to be independently verified or peer-reviewed. The software can be used enterprise-wide to conduct low-level remote sensing, viewing, sharing, and manipulating of image data without the need for desktop applications.

This program was written by Joel Lawhead of NVision Solutions, Inc. for Stennis Space Center.

Inquiries concerning rights for its commercial use should be addressed to:

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Refer to SSC-00251, volume and number of this NASA Tech Briefs *issue, and the page number.*

Fusing Image Data for Calculating Position of an Object

A computer program has been written for use in maintaining the calibration, with respect to the positions of imaged objects, of a stereoscopic pair of cameras on each of the Mars Explorer Rovers Spirit and Opportunity. The program identifies and locates a known object in the images. The object in question is part of a Mössbauer spectrometer located at the tip of a robot arm, the kinematics of which are known.

In the program, the images are processed through a module that extracts edges, combines the edges into line segments, and then derives ellipse centroids