Mars Software Honored by NASA
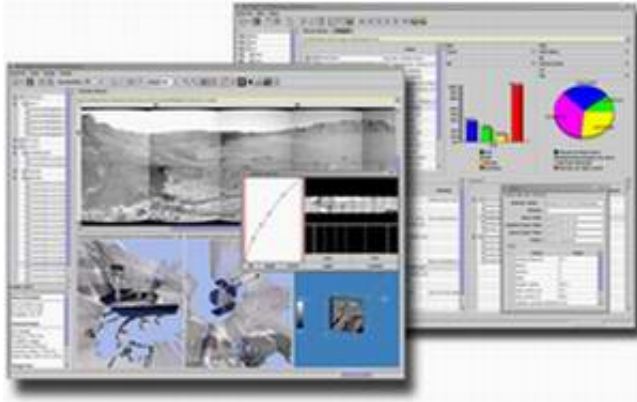
August 13 2004

NASA has selected a data visualization and simulation software package used by Mars rovers and landers, and a software package that can be used in aerospace and industrial flow fluid applications, as the "best of the best" software developed by the agency this year.

The "Science Activity Planner" developed by a team of experts at NASA's Jet Propulsion Laboratory, Pasadena, Calif., combines cutting-edge visualization with sophisticated planning and simulation capabilities to provide an intuitive interface to Mars rovers and landers. It is a multi-mission, multi-purpose tool that has achieved three simultaneous successes in mission operations, public outreach and technology development.

The software comes in two versions. The first is used in mission operations and contains the official mission activity dictionary. The second version was released under the name "Maestro" to the public for education and outreach. Maestro includes additional training features that make it a more effective tool for public engagement.

The software is used heavily in the Mars Exploration Rover Mission on a daily basis. Scientists on the rover missions depend on the Science Activity Planner as their primary interface to the Spirit and Opportunity rovers. Every day, mission scientists and engineers use it to plan the next actions of the rovers and analyze the data arriving from Mars. The software has completed over 350 Mars days of successful mission operations of the Spirit and Opportunity rovers without a single critical failure and will continue to serve this role until the end of the mission.

"We are thrilled to receive this award and honored to have been a part of the amazing team behind the Mars Exploration Rover mission," said Jeff Norris, the software team leader at JPL.

NASA also selected the TetrUSS 2004 software as an award winner. TetrUSS 2004 is a suite of computer programs used for fluid dynamics and aerodynamics analysis. Originally developed for NASA internal applications, TetrUSS 2004 has evolved into an efficient and versatile computer fluid dynamics tool used by engineers and scientists throughout the nation. The software is widely used in other government organizations, the aerospace industry, academia and non-aerospace industries such as automotive, biomedical and civil engineering.

Increased use of TetrUSS 2004 has occurred in critical NASA, government and industry programs. TetrUSS 2004 is now in use at over 500 sites for all classes of aerospace and industrial fluid flow applications, inside and outside of NASA, worth many billions of dollars. The TetrUSS 2004 team leader is Neal Frink of NASA's Langley

Research Center, Hampton, Va.

NASA began the competition in 1994, designed to reward outstanding software at the agency, as measured by the following criteria.
-- The science and technology significance of the software and its impact on NASA's mission
-- The extent of current and potential use
-- The usability of the software
-- The quality factors considered in the software
-- Intellectual property factors such as patents and copyrights
-- Innovation of the software

Software eligible for this award must have NASA intellectual property interest, be of commercial grade, and be available to appropriate commercial users or dedicated to a NASA mission.

For more information about the Software of the Year award on the Internet, visit: http: //icb.nasa.gov/nasaswy.html

Source: NASA