Centralized Alert-Processing and Asset Planning for Sensorwebs

NASA's Jet Propulsion Laboratory, Pasadena, California

A software program provides a Sensorweb architecture for alert-processing, event detection, asset allocation and planning, and visualization (see figure). It automatically tasks and re-tasks various types of assets such as satellites and robotic vehicles in response to alerts (fire, weather) extracted from various data sources, including low-level Webcam data. JPL has adapted considerable Sensorweb infrastructure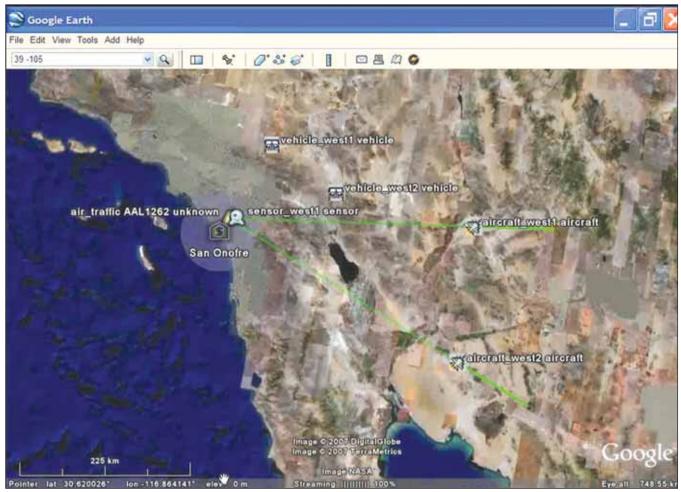 that had been previously applied to NASA Earth Science applications. This NASA Earth Science Sensorweb has been in operational use since 2003, and has proven reliability of the Sensorweb technologies for robust event detection and autonomous response using space and ground assets.

Unique features of the software include flexibility to a range of detection and tasking methods including those that require aggregation of data over spatial and temporal ranges, generality of the response structure to represent and implement a range of response campaigns, and the ability to respond rapidly.

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This software is available for commercial licensing. Please contact Daniel Broderick of the California Institute of Technology at danielb@caltech.edu. Refer to NPO-46468.

The **Map** is updated to show both planned asset routes as well as actual routes taken.

Support for Systematic Code Reviews With the SCRUB Tool

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SCRUB is a code review tool that supports both large, team-based software development efforts (e.g., for mission software) as well as individual tasks. The tool was developed at JPL to support a new, streamlined code review process that combines human-generated review reports with program-generated review reports from a customizable range of state-of-the-art source code analyzers. The leading commercial tools include Codesonar, Coverity, and Klocwork, each of which can achieve a reasonably low rate of false-positives in the warnings that they generate. The time required to analyze