

MISSION INTERACTIVE SCENARIO STUDIO FOR AUTONOMOUS SPACECRAFT

Thomas Starbird, Imin Lin & Adans Ko

Jet Propulsion Laboratory
California Institute of Technology
National Aeronautics and Space Administration
4800 Oak Grove Dr., Pasadena, CA 91109-8099 USA
Thomas Starbird Thomas.W.Starbird@jpl.nasa.gov, (818) 354-1033
Imin Lin Imin.Lin@jpl.nasa.gov, (818) 393-7485
Adans Ko Adans.Y.Ko@jpl.nasa.gov, (818) 393-4813

ABSTRACT

At JPL scenarios are used in two different ways: to support trade studies during early phases of mission concept design, and during the planning of the uplink during spacecraft operations. There are many simultaneous missions in planning and operations at JPL. Several software tools are standardly used to define scenarios and see their implications during planning. An example is the program APGEN. Each mission writes its own models and user-defined functions for use by APGEN. The reuse from one project to another of the user-defined functions is hampered in ways that changing to a component-based software structure would alleviate. This presentation illustrates one possible way of changing user-defined functions in APGEN to a component-based structure.