

for ease of interpreting data. This innovation was developed to provide the stiffness and damping components of wave bearing impedances.

The computational method for computing bearing coefficients was originally designed for plain journal bearings and tilting pad bearings. Modifications to include a wave bearing profile consisted of changing the film thickness

profile given by an equation, and writing an algorithm to locate the integration limits for each fluid region. Careful consideration was needed to implement the correct integration limits while computing the dynamic coefficients, depending on the form of the input/output variables specified in the algorithm.

*This work was done by Amanda Hanford and Robert Campbell of ARL/Penn State for*

*Glenn Research Center. For further information, contact the GRC Innovation Partnerships Office at (216) 433-8047.*

*Inquiries concerning rights for the commercial use of this invention should be addressed to NASA Glenn Research Center, Innovative Partnerships Office, Attn: Steven Fedor, Mail Stop 4-8, 21000 Brookpark Road, Cleveland, Ohio 44135. Refer to LEW-18627-1.*

## Scalable Integrated Multi-Mission Support System (SIMSS) Simulator Release 2.0 for GMSEC

*Goddard Space Flight Center, Greenbelt, Maryland*

Scalable Integrated Multi-Mission Support System (SIMSS) Simulator Release 2.0 software is designed to perform a variety of test activities related to spacecraft simulations and ground segment checks. This innovation uses the existing SIMSS framework, which interfaces with the GMSEC (Goddard Mission Services Evolution Center) Application Programming Interface (API) Version 3.0 message middleware, and allows SIMSS to accept GMSEC stan-

dard messages via the GMSEC message bus service.

SIMSS is a distributed, component-based, plug-and-play client-server system that is useful for performing real-time monitoring and communications testing. SIMSS runs on one or more workstations, and is designed to be user-configurable, or to use predefined configurations for routine operations. SIMSS consists of more than 100 modules that can be configured to create, receive,

process, and/or transmit data. The SIMSS/GMSEC innovation is intended to provide missions with a low-cost solution for implementing their ground systems, as well as to significantly reduce a mission's integration time and risk.

*This work was done by John Kim, Sarma Velamuri, Taylor Casey, and Travis Bemann of Honeywell Technology Solutions, Inc. for Goddard Space Flight Center. For further information, contact the Goddard Innovative Partnerships Office at (301) 286-5810. GSC-16039-1*

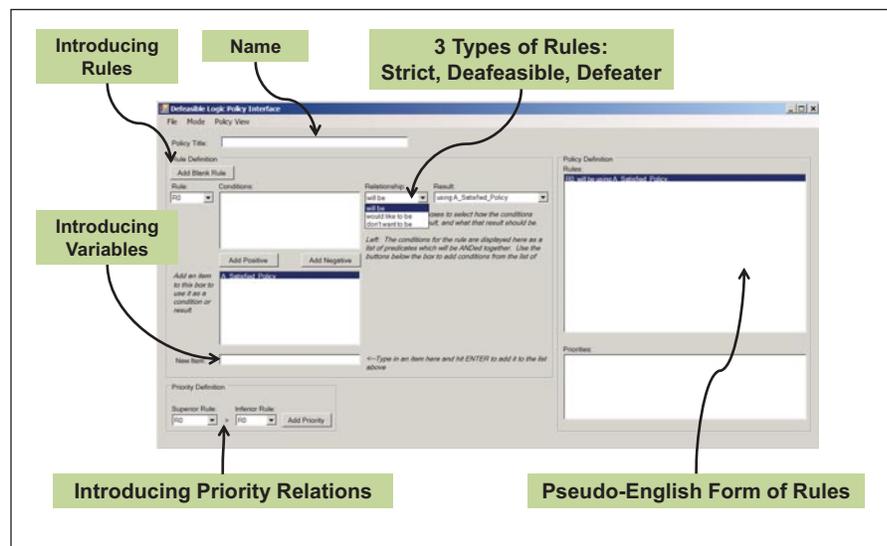
## Policy-Based Negotiation Engine for Cross-Domain Interoperability

**This method can be used by any organization with distributed Web entities.**

*NASA's Jet Propulsion Laboratory, Pasadena, California*

A successful policy negotiation scheme for Policy-Based Management (PBM) has been implemented. Policy negotiation is the process of determining the "best" communication policy that all of the parties involved can agree on. Specifically, the problem is how to reconcile the various (and possibly conflicting) communication protocols used by different divisions. The solution must use protocols available to all parties involved, and should attempt to do so in the best way possible. Which protocols are commonly available, and what the definition of "best" is will be dependent on the parties involved and their individual communications priorities.

This method is based on defeasible policy composition (DPC), a new approach for finding conflicts and resolv-



Defeasible Logic Policy Editor