scientific value. For RFI-robust adaptive detection of transients, using multiple stations, a family of algorithms has been developed. The technique exploits the fact that the separated stations constitute statistically independent samples of the target. This can be used to adaptively ignore RFI events for superior sensitivity. If the antenna signals are independent and identically distributed (IID), then RFI events are simply outlier data points that can be removed through robust estimation such as a trimmed or Winsorized estimator.

The alternative "trimmed" estimator is considered, which excises the strongest n signals from the list of short-beamed intensities. Because local RFI is independent at each antenna, this interference is unlikely to occur at many antennas on the same step. Trimming the strongest signals provides robustness to RFI that can theoretically outperform even the detection performance of the same number of antennas at a single site. This algorithm requires sorting the signals at each time step and dispersion measure, an operation that is computationally tractable for existing array sizes.

An alternative uses the various stations to form an ensemble estimate of the conditional density function (CDF) evaluated at each time step. Both methods outperform standard detection strategies on a test sequence of VLBA data, and both are efficient enough for deployment in real-time, online transient detection applications.

This work was done by David R. Thompson, Kiri L. Wagstaff, and Walid A. Majid of Caltech for NASA's Jet Propulsion Laboratory. Further information is contained in a TSP (see page 1). *NPO-47678*

Router Agent Technology for Policy-Based Network Management

NASA's Jet Propulsion Laboratory, Pasadena, California

This innovation can be run as a stand-alone network application on any computer in a networked environment. This design can be configured to control one or more routers (one instance per router), and can also be configured to listen to a policy server over the network to receive new policies based on the policy-based network management technology. The Router Agent Technology transforms the received policies into suitable Access Control List syntax for the routers it is configured to control. It commits the newly generated access control lists to the routers and provides feedback regarding any errors that were faced. The innovation also automatically generates a time-stamped log file regarding all updates to the router it is configured to control.

This technology, once installed on a local network computer and started, is autonomous because it has the capability to keep listening to new policies from the policy server, transforming those policies to router-compliant access lists, and committing those access lists to a specified interface on the specified router on the network with any error feedback regarding commitment process.

The stand-alone application is named RouterAgent and is currently realized as a fully functional (version 1) implementation for the Windows operating system and for CISCO routers.

This work was done by Edward T. Chow, Gurusham Sudhir, Hsin-Ping Chang, Mark James, and Yih-Chiao J. Liu of Caltech and Winston Chiang of the University of Southern California for NASA's Jet Propulsion Laboratory. Further information is contained in a TSP (see page 1).

The software used in this innovation is available for commercial licensing. Please contact Daniel Broderick of the California Institute of Technology at danielb@caltech.edu. Refer to NPO-47228.