

The Reactis® Communicator

To : Reactis Users
From : Reactive Systems, Inc.
<http://www.reactive-systems.com/>
Date : November 7, 2006

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1 Reactis V2006.2 Now Available

We are pleased to announce the availability of Reactis V2006.2, which includes numerous new features and enhancements since the previous major release in January of this year. Some highlights are below. For more details please see the revision history in the Reactis User's Guide which is included in the distribution and is also available from: <http://www.reactive-systems.com/>

The following are some of the features added since V2006.

1.1 Newly-Supported Simulink and Stateflow features

1. Support MathWorks R2006b release.
2. The restriction that MC/DC decisions can have no more than 12 conditions has been removed.
3. Support for fixed point values in S-Functions.
4. Support Simulink bus objects.
5. Support for custom C code in Stateflow charts. In Stateflow, users can add external C code via the "Target Options" dialog and then subsequently call functions defined in that code from condition or transition actions within Stateflow. Reactis now supports this feature.

1.2 Coverage Tracking Improvements

1. Coverage tracking for 1-D and 2-D lookup tables has been added. To view the coverage information associated with a table, right-click on the table and select “View Coverage Details”.
2. Reactis now tracks boundary value coverage for configuration variables.
3. Track coverage for “Enable” blocks to make Reactis try to have enabled subsystems be *not* enabled at least once.
4. Track MC/DC coverage for Simulink “If” blocks.
5. Track coverage for “else” branch in “If” and “Switch Case” blocks even if the block is configured to not have an output for these cases.
6. Track branch coverage for “Abs” and “Signum” blocks.
7. Additional branch coverage targets have been introduced for Switch Case blocks. Previously Reactis tracked one branch target per output of a Switch Case block. However, some outputs may be triggered when the control input matches one value from of a set. For such outputs activated by multiple values, Reactis now tracks a branch target for each such value.
8. Reactis now supports boundary value coverage for the Relational Operator block. For a relational operator block with inputs a and b, Reactis now tracks the following targets:
 - $a == b$
 - $a == b + \epsilon$
 - $a == b - \epsilon$

where epsilon is the smallest increment representable in the type of a and b.

1.3 Other Enhancements

1. A new feature was added to retrieve recent error and warning messages by selecting **View -> Show Recent Errors**.
2. The Reactis installer now supports a silent install (installing Reactis from the DOS command line in an automated fashion).
3. Several functions have been added to the Reactis API.
4. Optimized caching and initialization procedures for models with large signal vectors.

2 Reactis for C

RSI is pleased to announce that a new product, *Reactis for C*, is due to be released in 2007. Reactis for C (currently in alpha test) will provide the same benefits for the C programming language that Reactis currently provides for Stateflow/Simulink, plus some additional advantages. These include the following.

- Automatic intelligent test-case generation driven by standard coverage criteria or user-specified requirements.
- A graphical debugging environment including reverse-execution, highlighting of test coverage, and visualization of data item values during a test.

- The ability to annotate C code with user-specified validation objectives within the Reactis for C graphical environment, without modifying the C source code.
- Automatic detection of difficult-to-detect memory errors, such as dereferencing of dead pointers.

Reactis for C will also integrate with Reactis for Simulink/Stateflow to offer a number of benefits such as the following.

- Improved validation of S-Functions and custom C code in Stateflow.
- Simulation of Simulink, Stateflow, and C code from a single easy-to-use set of controls.
- An enhanced capability to check conformance of C implementation code to Stateflow/Simulink models and vice-versa.

If you are interested in trying the current alpha version of Reactis for C, please send email to help@reactive-systems.com.

3 RSI Awarded SBIR Grant

RSI has been awarded a Phase I Small Business Innovation Research (SBIR) grant by the Office of Naval Research (ONR) and Naval Research Laboratory (NRL). The project titled “A Software Hub for High Assurance Model-Driven Development and Analysis” aims to increase the level of interoperability among model-based design tools that use different modeling notations.

4 RSI to Exhibit at MATLAB EXPO, Tokyo

RSI will exhibit Reactis at the MATLAB EXPO 2006 to be held on December 7 at the Tokyo Prince Hotel Park Tower in Tokyo, Japan. Please see <http://www.matlabexpo.com/> for details.

5 Website Enhancement: Improved Search

The new Google search box on the RSI home page simplifies access to Reactis information. All portions of the RSI website are indexed, including the Reactis User’s Guide, Reactis FAQs, newsletters, and white papers. So for quick access to Reactis information just visit the RSI home page <http://www.reactive-systems.com> and enter your search at the top of the page.

Best Regards,
The Reactis Team

This is installment seventeen of “The Reactis Communicator”, a low volume mailing list for conveying information about Reactis, RSI’s embedded software design automation tool suite. Reactis enables users to deploy model-based software testing and validation to dramatically reduce the costs of testing embedded control software. Reactis is used in conjunction with the Simulink and Stateflow modeling and simulation environments offered by The MathWorks, Inc.

If you are no longer interested in receiving information about Reactis, please see the instructions below for removing yourself from the list and we apologize for the intrusion.

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