

University of Salzburg

Department of Computer Science

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Assignment for Diploma Thesis

Topic: Hybrid Approach for Simulation of TDL-Models in Simulink

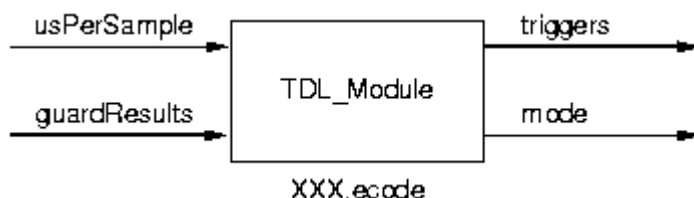
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Description: The aim of this thesis is the development of a simulation environment for TDL models, which are created with the visual TDL editor in a MATLAB/Simulink environment. The simulation environment should consist of two parts:

1. A Simulink S-function written in ANSI C, which represents an E-code interpreter for one TDL module. The input/output behaviour is defined by the following diagram. Bold lines depict vector signals.



The input port *usPerSample* (micro seconds per sample tick) could also be realized as a parameter to the S-function since it is a static value. Guard Results control the E-code program execution, triggers and mode control the function execution and signal flow in the Simulink model.

2. A model generator written in Java, which translates the TDL module and the Simulink function blocks (for task implementations and guards) into an executable Simulink model by using the S-function from above.
The model generator will be integrated into the visual TDL editor as a plug-in.

Date of Assignment: April 4th, 2005

Date of Completion: September, 2005