Modeling and Analysis Suite for Real Time Applications (MAST 1.7.0)

Restrictions

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1. Introduction

The MAST model has some general restrictions, that affect all application models, and other restrictions that affect specific analysis tools. Some of the restrictions are marked as temporary, because they will be eliminated in the future.

In addition to the restrictions, there are some consistency checks that are made to determine if a MAST description is correct. They are based on a set of rules.

2. Consistency Checks

They are used to determine whether a MAST description is correct and if it covers the most basic general restrictions. They are based on the following set of rules, which are checked for each transaction in the system:

1. At least one external event

2. Each external event link directed at one event handler, and with an external event.

3. Each internal event link comes from an event handler

4. Each simple event handler has an input event link and an output event link

5. Each input event_handler has 2 or more input event links and an output event link

6. Each output event handler has 2 or more output event links and an input event link

7. No circular dependencies in the transaction graph

8. No isolated event links

9. No isolated event handlers

10. All activities have an operation

11. All activities have a scheduling server

12. All scheduling servers have a scheduler

13. All scheduling servers have scheduling parameters

14. All rate divisors, offset and delay event handlers are only followed by activities

15. All primary schedulers have a processing resource