

Creating Virtual Test Bed Models from Paragon

A Subcontract Proposal Submitted to the

University of South Carolina

under contract to the

Office of Naval Research

Prepared by

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January 18, 2001

Proposed Period of Performance: Jan. 1, 2001 – Dec. 31, 2001

Submitted by

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ONR-USC Subcontract Proposal CY01

I. Proposed Research

The subcontract for calendar year 2001 (CY01) that will be executed as a part of the Virtual Test Bed (VTB) Program at South Carolina (USC) will target the delivery of code generation technology within the Paragon modeling tools (formerly Model Architect) that can produce native VTB models. A rough breakdown of the major milestones over the coming year is identified in the timeline shown in Fig. 1. At the end of CY01 it is expected that Paragon and VTB will remain independent tools. This is depicted in Fig. 2. In contrast to Fig. 2, the vision is to combine support from ONR/USC to leverage related research and development occurring on Paragon into the VTB environment over subsequent years. In light of this, software architectural and implementation issues will be assessed against this backdrop. The expectations are that modules within Paragon will be implemented in a fashion integratable within VTB for a highly cohesive, seamless look-and-feel. This vision is depicted in Fig. 3.

The milestones for CY01 are:

1. Completing the porting of Paragon to Sun OS2.8
2. Investigating the native VTB semantics
3. Constructing the VTB code generator
 - a) time-invariant constructs
 - b) time-varying constructs
 - c) implicit relations
4. VTB Generator Complete

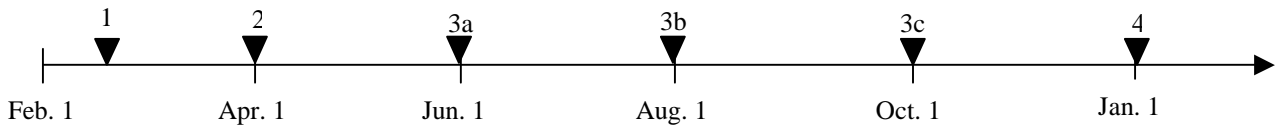


Fig. 1. Milestones for CY01 on the VTB code generator.

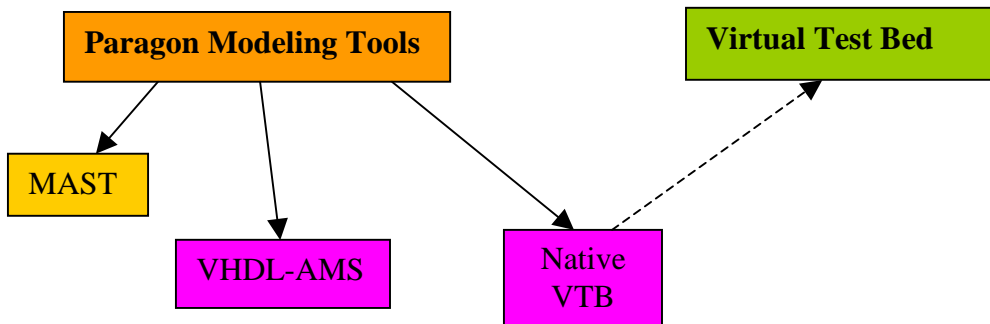


Fig.2. Output languages supported by the Paragon tools (VHDL-AMS and Native VTB in CY01).

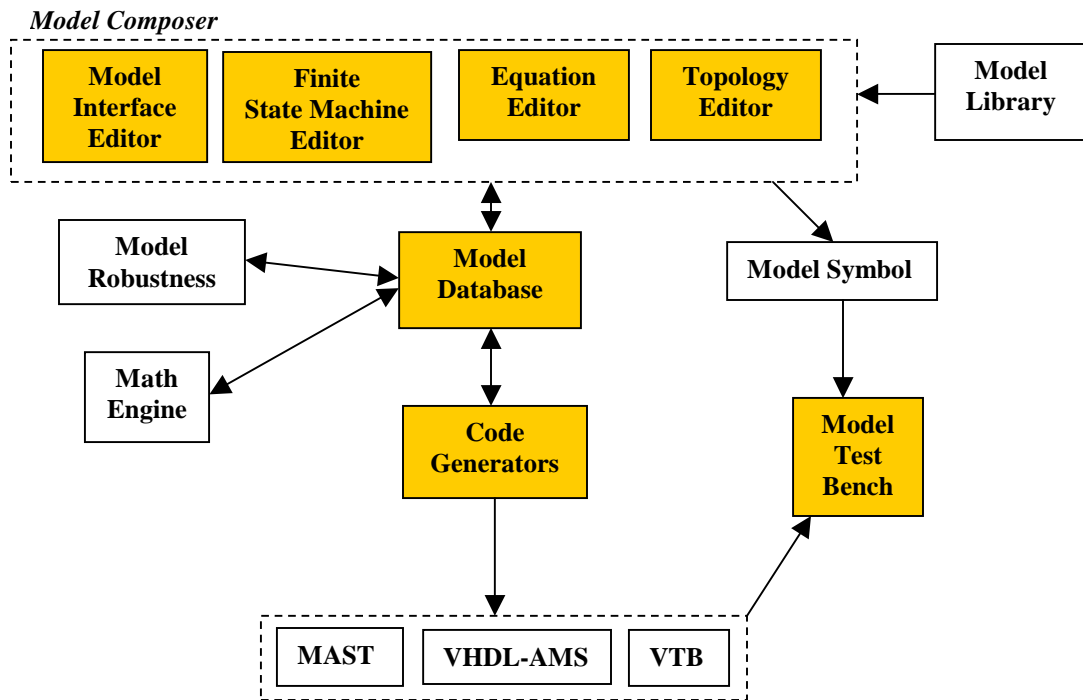


Fig. 3. Some of the modules of the original Model Architect structure that are candidates to be implemented within VTB (highlighted blocks).