Abstract

AADL (Architectural Analysis and Design Language) is a textual and graphical language used to design and analyze software architecture of embedded real time systems. Many tools and models provide semantics and precise meaning for AADL architecture behavior. However, they are not supported by a well defined formal semantics. This paper suggests Rewriting Logic via its practical language Maude as an adequate formalism for modeling behavior concepts in an AADL architectural description. Besides, RT-Maude system offers a natural support to execute and prototype real-time object-oriented modules formalizing AADL architecture behavior composed of several communicating threads.

Reference
How to Make AADL Specification More Precise

- Sokolsky, O., Lee, I., and Clarke, D. 2009 Process-Algebraic Interpretation of AADL Models. 14th International Conference on Reliable Software Technologies, LNCS 5570, pp. 222-236

**Index Terms**

Computer Science  
Software Engineering

**Key words**

AADL  
Behavioral Annex  
Revised Rewriting  
Logic  
Real Time Maude