

A logical framework for exogenous component-based software reasoning with Reo

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Abstract Software components communicate using channels for message passing. Reo is a graphic-based coordination modelling language which aims to capture and model this interaction. The fact that Reo can be used to model many real-world situations has attracted attention from researchers, resulting in a great effort tailored to formalize its behaviour in order to verify properties of Reo circuits. We present a logical framework giving rise to ReoXplore, an open-source tool to model and reason about Reo circuits in a proof-theoretical way (using Coq proof-assistant) and by means of model checking them (using nuXmv model checker).