

Title (en)
TOOL AND METHOD FOR DESIGNING AND VALIDATING A DATA FLOW SYSTEM BY A FORMAL MODEL

Title (de)
WERKZEUG UND VERFAHREN ZUM ENTWERFEN UND VALIDIEREN EINES DATENFLUSSSYSTEMS DURCH EIN FORMALES MODELL

Title (fr)
OUTIL ET PROCÉDÉ DE CONCEPTION ET DE VALIDATION D'UN SYSTÈME FLOTS DE DONNÉES PAR UN MODÈLE FORMEL

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Application
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Abstract (en)
[origin: WO2020043999A1] The present invention concerns a method and a tool for designing and validating a data flow system comprising a set of software and/or hardware actors (ai, aj) interconnected with each other by unidirectional communication channels (ci, cj), the tool comprising: - a modelling interface (11) configured to generate an instance of the system by specifying, in a formal manner, a real-time and reconfigurable data flow, the reconfiguration of the data flow being carried out dynamically by propagating reconfiguration data from one actor to another through the communication channels, - an analysis module (13) configured to prove a predetermined set of behavioral properties of the system by means of a static analysis of the instance, - a refinement interface (15) designed to allocate resources to the instance, thus establishing a configured instance, the allocation of resources being carried out in such a way that an implementation of the system complies with the configured instance, and - a conformity test module (17) configured to verify the conformity of the behaviour of an implementation of the system with respect to the configured instance.

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