

Title (en)

METHOD FOR AUTOMATICALLY DETERMINING CAUSES OF THE MALFUNCTION OF A SYSTEM MADE UP OF A PLURALITY OF HARDWARE OR SOFTWARE COMPONENTS

Title (de)

VERFAHREN ZUR AUTOMATISCHEN BESTIMMUNG DER URSACHEN DER FEHLFUNKTION EINES SYSTEMS AUS EINER VIELZAHL VON HARDWARE- ODER SOFTWARE-KOMPONENTEN

Title (fr)

PROCÉDÉ DE DÉTERMINATION AUTOMATIQUE DE CAUSES DE DYSFONCTIONNEMENT D'UN SYSTÈME COMPOSÉ D'UNE PLURALITÉ DE COMPOSANTS MATÉRIELS OU LOGICIELS

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Application

EP 15753735 A 20150731

Priority

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Abstract (en)

[origin: WO2016016587A1] The invention relates to a method for automatically determining necessary or sufficient cause of a malfunction of a system made up of a plurality of hardware or software components. The method comprises, from the obtaining (22) of an execution trace including a sequence of events observed during the execution of the system, obtaining a tested subset of components comprising at least one component in which the execution trace has (24) at least one non-conformity with the specification of correct operation of said component, and a subset of components processed in accordance with said tested subset of components; for a processed subset of components, a calculation, for each of the components of the system, of a prefix of an execution trace not affected by events that do not conform with the specification observed for the components of the processed subset of components, the determination of a counterfactual execution model of the processed subset making it possible to generate all of the possible behaviours, starting with the unaffected prefixes, in the absence of a malfunction of the components of the processed subset of components and the determination (28, 30) of the necessary or sufficient cause of the components of the subset of components tested for the malfunction of the system in accordance with the verification that said counterfactual model of the processed subset of components complies with said global property of the system.

IPC 8 full level

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CPC (source: EP US)

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