



Business Process Variability

A Study into Process Management and Verification

Business Process Management (BPM) manages and optimizes business processes with the intent to increase productivity and performance. BPM is a rapidly evolving field due to new requirements emerging at agile branches of business where business processes are required to be less and less rigid. Where BPM supported local user-specific rigid and repetitive units of work in the past, these days it is required to support loosely-coupled processes in cloud configurations among many users with each many different requirements.

As the field of BPM continues to manage an increasing number of rapidly evolving business processes in agile environments, the evolution of each business process must continue to always behave in a correct manner and remain compliant with the laws, regulations, and internal business requirements imposed upon it. To manage the correct behavior of quickly evolving business processes, or the definition of a wide variety of similar business processes, we evaluate the application of formal verification techniques as a possible solution for the pre-runtime analysis of the correct behavior and compliant design of business processes within possible process families.

A novel approach allowing pre-runtime verification that supports the different branching and merging constructs allowed by business process models and their service compositions is presented. Evaluations on expressive power demonstrate that, other than the generally employed transition systems, the proposed model correctly captures well-known business process patterns. Furthermore, it maintains information on parallel occurrences of activities and the local next activity occurrence: an ability which is unique to the presented approach.

ISBN 978-90-367-9237-0



9 789036 792370 >

Business Process Variability

Heerko Groefsema

