Merging Business Process Models

In order to avoid duplication and achieve the best possible synergies, it is necessary to combine a number of existing business models within different entities, as part of company mergers and restructurings. Specialists are generally faced with the difficulty of manually comparing and merging similar processing models - a delicate, time-consuming and error-prone operation. This article therefore suggests a (semi-)automated approach to merging process models, in order to streamline the consolidation effort and improve the efficiency of identifying commonalities and differences between disparate process models.

The algorithm is based on a user-defined correspondence between elements of different process models, which can be adjusted as required, and has been successfully tested in various domains, demonstrating its ability to generate concise models even with hundreds of nodes. This paper introduces the concept of configurable process models and proposes a method for initiating mappings between similar elements, details the process merging algorithm, reports on its implementation and evaluation, and concludes with discussions of related work.It highlights the variety of notations used to describe business processes, including event-driven process chains (EPC), UML activity diagrams (UML AD) and business process modeling notation (BPMN). It opts for a notation-agnostic approach, representing business process models as labeled nodes in a directed graph, facilitating model merging across different notation systems.