A CSP-theoretic Framework of Checking Conformance of Business Processes

Abstract

In this paper, we tackle the problem of conformance checking which verifies if the event logs (observed) match/fit the reference (arbitrary) process. We use concepts from Communicating Sequential Processes (CSP), which facilitates automated analysis using PAT toolkit. By this technique one can identify all the logs which cannot be properly replayed on the process. We illustrate our approach with an example. Finally, we introduce some metrics based on conformance checking. They are related to fitness, closeness, and appropriateness of the event logs vis-a-vis reference process models.

Keywords

Business, Unified modeling language, Synchronization, Process control, Logic gates, System recovery, Standards.