

## Fault Detection Algorithms in Constrained Rule-Based Information Distribution Systems

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**Abstract:** A Rule-Based Information Distribution System (RBIDS) is a system that uses distributed rules to control message passing between distributed nodes within a real-time, concurrent distributed environment. The problem addressed in this paper is that there is a need to develop efficient algorithms that can be used to verify rule-based systems against different kinds of faults due to the important role of these systems in various application domains. To meet the requirements of RBIDSs, constraints are often imposed upon their events. We present an efficient algorithm to group a constrained rule set into a set of rule subsets, where rules of each subset can be chained together. We also present a set of efficient algorithms to inspect each rule subset generated by the grouping algorithm.

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