ABSTRACT

In Complex Event Processing (CEP), we deal with how to search through a sequence of incoming events to find a specified and desired pattern. CEP has a broad use in today enterprise. It can act on sent and/or received events. The result can generate other events that can be used in different layers of an enterprise system. Growing number of areas dealing with arisen events like Business Activity Monitoring (BAM), Fraud detection and intrusion detection makes CEP a hot topic for researchers. Generating efficient high-performance patterns is the issue which has been addressed in this paper. The pattern can be made from any query given by user. The user defined query is CQL (Continuous Query Language) which is relevant for time series data. NFA (Nondeterministic Finite Automaton) is used for modeling patterns although it has some defects which are addressed. The focus of this paper is on developing a rule modeling engine and taking into account the role of historical data to make efficient patterns. We developed some algorithms for each component of proposed model. The results are optimized patterns produced based on historical data and queries given by user. Finally we show that these techniques can be efficient when we deal with high volume event-base data.