

Data streams occur in a variety of modern applications, such as network monitoring, traffic engineering, sensor networks, RFID tags applications, telecom call records, financial applications, Web logs, click-streams. Specialized Stream Database Management Systems exist. While such systems proved to be an optimal solution for on the fly analysis of data streams, they cannot perform complex reasoning tasks, such as the ones required for computing the answers to the above queries. At the same time, while reasoners are year after year scaling up in the classical, time invariant domain of ontological knowledge, reasoning upon rapidly changing information has been neglected or forgotten. Reasoning systems assume static knowledge, and do not manage “changing worlds” – at most, one can update the ontological knowledge and then repeat the reasoning tasks.