**SWEEP: a Streaming Web Service to Deduce Basic Graph Patterns from Triple Pattern Fragments**

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**Motivation**

It is fundamental to understand user queries executed over servers to detect recurrent patterns in queries for prefetching, auditing, usage control, etc.

Currently, this is not possible in the context of TPF (Triple Pattern Fragments) because servers only receive single triple patterns.

**Objectives**

To deduce BGPs (Basic Graph Patterns) of user’s queries from TPF server logs.

Main challenge: to distinguish concurrent similar SPARQL queries.

**Approach**

From a stream of execution traces organized by IP-address and a sliding window, SWEEP deduces triple pattern joins implemented through nested-loops.

**SWEEP**

Input: a stream of server execution traces <ip,ts,asked triple pattern, returned TPF>

Output: Set of deduced BGPs

**SWEEP supports:**

😊 TPF pagination
😊 Multiple TPF server logs
😊 Federated queries
😊 Concurrency

**Evaluation**

SWEEP produces a subset of the partition of the BGP of the original SPARQL query, i.e., the query execution plan. SWEEP was evaluated with the set of queries of the public TPF client. SWEEP obtained 100% of precision and 87% of recall when the best deduced BGP is compared to the original BGP.