

Demo: YABench

Yet Another RDF Stream Processing Benchmark

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Related Work

- 2012: LSBench [1]
 - First RSP Benchmark
 - Results: conceptual and technical differences of engines, performance shortcomings
- 2012: SRBench [2]
 - Functional evaluation based on a defined queryset
 - Results (simplified): Engines still limited
- 2013: CSRBench [3]
 - Correctness checking wrt engines' operational semantics
 - Results: none passes all tests + discussion why queries fail

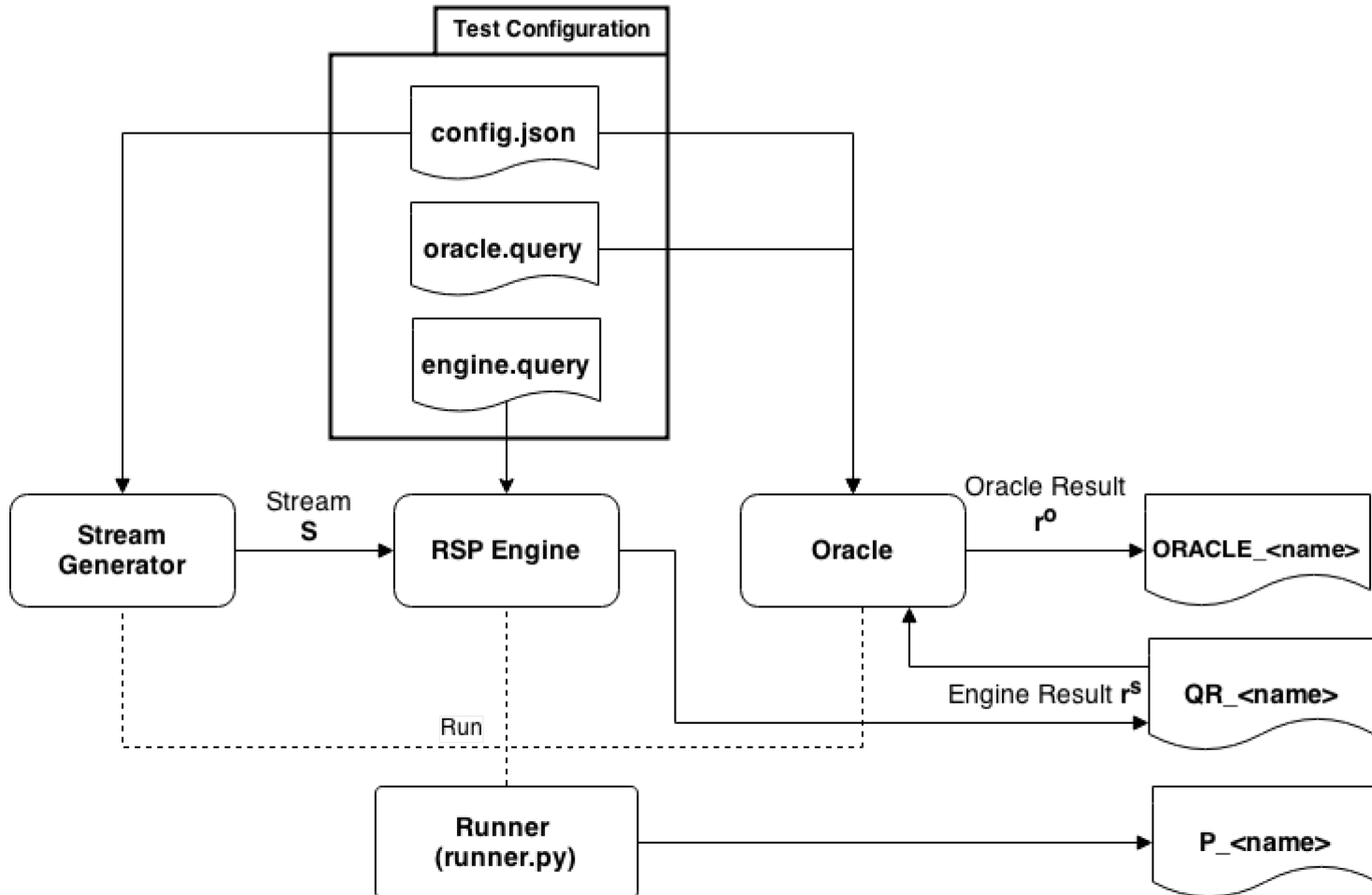
Metrics

- Precision/Recall per Window
- Window Size (expected)
- Result Size (expected/actual)
- Delay
- Performance
 - Memory Usage (% and absolute)
 - CPU Usage (%)
 - Spawned Threads

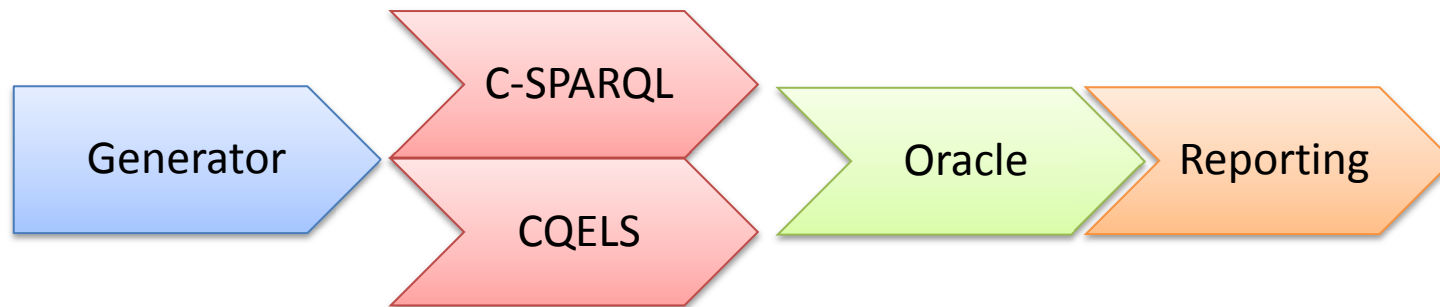
Oracle

1. it determines the scope of the next window that will report based on the given window size α , window slide β , and the required report policy
2. then the scope $(t_s, t_e]$ is used to select window content from the input stream \mathcal{S} where the relevant triples fall in the defined scope
3. it computes the expected result by executing the SPARQL query q' on the window content of the query engine
4. the result of this query is compared with the next result of the continuous query q and precision/recall metrics are computed
5. the remaining metrics, i.e., delay, window size, and result size, are computed.

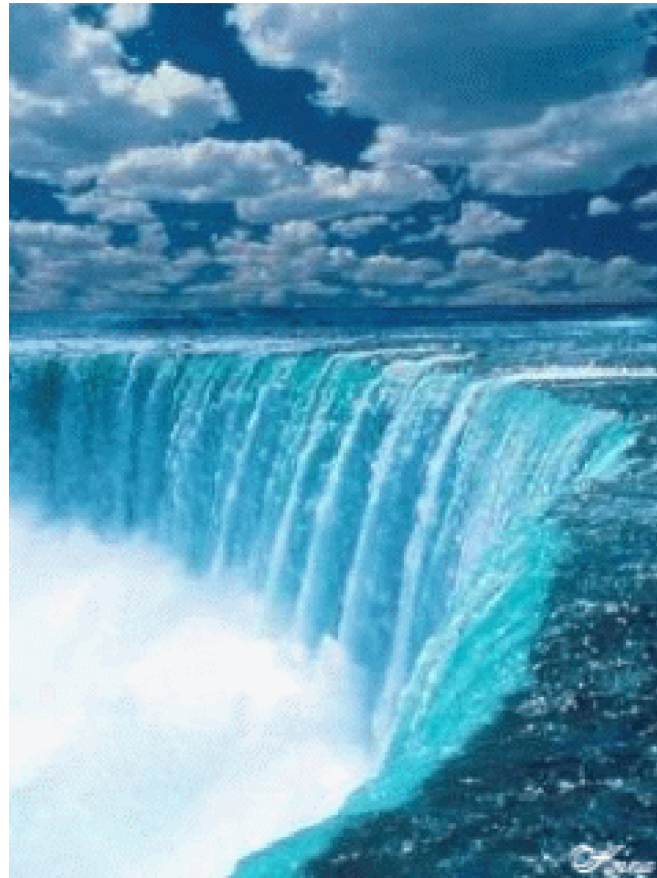
Workflow₁



Workflow₂



Let's do some streaming ...



References

[1] Le-Phuoc, D., Dao-Tran, M., Pham, M., Boncz, P., Eiter, T., Fink, M.: Linked stream data processing engines: facts and figures. In: The Semantic Web - ISWC 2012 - 11th International Semantic Web Conference, Boston, MA, USA, November 11-15, 2012, Proceedings, Part II, pp. 300–312. Springer (2012)

[2] Zhang, Y., Duc, P.M., Corcho, O., Calbimonte, J.P.: SRBench: a streaming RDF/SPARQL benchmark. In: The Semantic Web - ISWC 2012 - 11th International Semantic Web Conference, Boston, MA, USA, November 11-15, 2012, Proceedings, Part I, pp. 641–657. Springer (2012)

[3] Dell’Aglio, D., Calbimonte, J.P., Balduini, M., Corcho, O., Della Valle, E.: On correctness in RDF stream processor benchmarking. In: The Semantic Web - ISWC 2013 - 12th International Semantic Web Conference, Sydney, NSW, Australia, October 21-25, 2013, Proceedings, Part II, pp. 326–342. Springer (2013)

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