# Linked Data Benchmark Council – Semantic Publishing Benchmark Audited Run – Executive Summary (single machine, SF3)

## System Details

| Test Sponsor: | GraphDB EE 10.1.0 | LDBC SPB 2.0.2 Auditing Policies 2.0.2 |
|---|---|---|
|  |  | Availability date: 29th January 2023 |

| Cloud provider | Machine region / instance type | Operating system | Database management system |
|---|---|---|---|
| Amazon Web Services | West / r6id.8xlarge | Ubuntu | GraphDB EE 10.1.0 |

| Server vcpu cores / type | Total cache size per CPU | Memory size | Storage / file system |
|---|---|---|---|
| 32 / Intel Xeon Platinum 8375CL @ 3.5GHz | L1 cache: 2560 KiB<br>L2 cache: 40 MiB<br>L3 cache: 54 MiB | 256 GiB | 1x1900GB NVMe SSD / ext4 |

## System Pricing

| Total system cost | Machine cost | License cost | Maintenance fee |
|---|---|---|---|
| 57,474 - 207,474 USD | 27,474.12 USD (r6id.8xlarge reserved instance machine in AWS, standard 3-year term) | 30,000 - 180,000 USD (depends on number of cores) | 0 USD |

## Benchmark Configuration and System Settings

| Implementations version | v2.0.2 (basic-querymix-graphdb) | | | | |
|---|---|---|---|---|---|
| Driver read threads | 0 | 8 | 16 | 16 | 24 |
| Driver write threads | 4 | 4 | 0 | 4 | 0 |
| Data generation workers | 4 | | | | |
| Warmup period (seconds) | 400 | | | | |
| Output format | Direct SPARQL endpoint insert | | | | |
| Scale factor | SF-3 (256M) | | | | |
| Using Docker? | Yes | | | | |

## Summary of final performance metrics

| Read threads | Write threads | Duration of bulk load (ms) | Retrieval query rate (q/s) | Update query rate (q/s) |
|---|---|---|---|---|
| 0 | 4 | 10,762,417 | 0 | 37.7325 |
| 8 | 4 | 10,762,417 | 216.5542 | 31.1383 |
| 16 | 0 | 10,762,417 | 384.2900 | 0 |
| 16 | 4 | 10,762,417 | 335.4758 | 25.6592 |
| 24 | 0 | 10,762,417 | 413.1558 | 0 |

| Audited by Pjotr Scholtze | Report Date: 29/01/2023 |
|---|---|
| This summary references an audited LDBC benchmark run. The results have been gathered by an independent and impartial auditor who has validated the implementation of the queries, successfully run the ACID tests associated with the claimed isolation level, and verified the overall system's configuration conformance to the description of the benchmark and its strict requirements. | |