

Linked Data Benchmark Council – Semantic Publishing Benchmark Audited Run – Executive Summary (single machine, SF5)

System Details

Test Sponsor: 	GraphDB EE 10.1.0 	LDBC SPB 2.0.2 Auditing Policies 2.0.2 Availability date: 29th January 2023
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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 L2 cache: 40 MiB 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-5 (1B)				
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	13,333,637	0	17.4625
8	4	13,333,637	69.0275	13.1450
16	0	13,333,637	130.2000	0
16	4	13,333,637	105.7608	10.4492
24	0	13,333,637	158.1042	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.	