Linked Data Benchmark Council – Social Network Benchmark Audited Run – Executive Summary

System Details

Test Sponsor: 蚂蚁集团 ANT GROUP		TuGraph v3.2.0	LDBC SNB 0.3.6 Auditing Policies 0.3.6
			Availability date: 29th July 2022

Cloud provider	Machine region / instance type	Operating system	Database management system
Amazon Web Services	N. Virginia / r5d.12xlarge	Ubuntu 18.04.6	TuGraph v3.2.0

Server processor cores / threads / type	Total cache size per CPU	Memory size	Storage / file system / average performance
24 / 48 / Intel Xeon Platinum 8259CL @ 2.5GHz	L1 cache: 1536 KiB L2 cache: 24 MiB L3 cache: 33 MiB	384 GiB	2x900GB NVMe SSD in RAID0 / ext4 / 7544 IOPS

System Pricing

Total system cost	Machine cost	License cost	Maintenance fee
291,176 USD	44,676 USD (r5d.12xlarge reserved instance machine in AWS, standard 3-year term)	170,000 USD	76,500 USD

Benchmark Configuration and System Settings

Datagen version	v0.3.5		
Driver version	v1.2.0		
Implementations version	v1.0.0		
Driver read threads	48		
Driver write threads	32		
Output format	CsvCompositeMergeForeign using the LongDateFormatter		
Scale factor	30	100	300
Time compression ratio	0.002800	0.010400	0.03600
Time compression ratio (100% on-time)	0.003400	0.011475	0.04320
Transaction isolation level	Serializable		

Summary of final performance metrics

Scale factor	Benchmark duration	Benchmark operations	Throughput (ops/s)	On-time query compliance
30	02h 05m 08s	91,994,491	12,252.50	95.85%
100	02h 04m 59s	96,999,938	12,934.61	97.02%
300	02h 04m 26s	94,979,387	12,721.24	95.47%

Summary of performance metrics with 100% on-time query compliance

Scale factor	Benchmark duration	Benchmark operations	Throughput (ops/s)	On-time query compliance
30	02h 01m 59s	75,985,520	10,380.65	100.00%
100	02h 05m 33s	89,004,182	11,814.59	100.00%
300	02h 13m 25s	84,008,662	10,494.29	100.00%

Audited by David Püroja	Report Date: 16/08/2022
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.	

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