LDBC Benchmarks:
Promoting Good Science and Industrial Consumption

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LDBC Industry Issues

- What we have noticed over the last year is that:
    - it is very difficult to verify correctness
    - it is very difficult to reproduce experiments
    - it takes a lot of effort to optimize
    - vanilla implementations are not optimal

- Which means that:
    - an increasing number of spurious claims are appearing
    - comparisons are problematic

LDBC: A Marque of Prestige

SOCIAL NETWORK BENCHMARK INTERACTIVE AUDITED RESULTS

SF	Throughput (ops/sec)	Cost	Software	Hardware	Test Sponsor	Date	SNB Version	Full Disclosure Report
30	9,285.86	$263,282	Galaxybase 3.3.0	AWS r5d.12xlarge instance, 48*Intel Xeon Platinum 8259CL @ 2.5GHz, 372GB RAM	CreateLink	2022/05/16	v0.3.3	Full Disclosure Report
100	8,501.21	$263,282	Galaxybase 3.3.0	AWS r5d.12xlarge instance, 48*Intel Xeon Platinum 8259CL @ 2.5GHz, 372GB RAM	CreateLink	2022/05/16	v0.3.3	Full Disclosure Report
300	8,370.52	$263,282	Galaxybase 3.3.0	AWS r5d.12xlarge instance, 48*Intel Xeon Platinum 8259CL @ 2.5GHz, 372GB RAM	CreateLink	2022/05/16	v0.3.3	Full Disclosure Report
30	5,436.47	$280,650	TuGraph 1.10	AWS r5d.12xlarge instance, 48*Intel Xeon Platinum 8175M @ 2.5GHz, 374GB RAM	FMA	2020/07/26	v0.3.2	Full Disclosure Report
100	5,010.77	$280,650	TuGraph 1.10	AWS r5d.12xlarge instance, 48*Intel Xeon Platinum 8175M @ 2.5GHz, 374GB RAM	FMA	2020/07/26	v0.3.2	Full Disclosure Report
300	4,855.52	$280,650	TuGraph 1.10	AWS r5d.12xlarge instance, 48*Intel Xeon Platinum 8175M @ 2.5GHz, 374GB RAM	FMA	2020/07/26	v0.3.2	Full Disclosure Report

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What Happens If We Do Good Science?

- Recent example of a high-profile Product Manager
  - Trusted "LDBC Branded Work"
  - Included claims that didn't hold up in his keynote
  - Consequently, ruined our community standing

- Or a University using LDBC branded reports
  - To teach undergraduates about academic malpractice

- Are these examples avoidable?
  - Diminishes LDBC standing in community
  - Undermines the legitimacy of the LDBC brand

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Opportunities To Improve

Reproducibility

Rationalization

Rigor

Responsibility

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Thank you!

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