

Alastair Green
Vice-chair

LD BC

18th TUC
Guangzhou



**30-31
August
2024**

**“The
State
of the
Union”**

Background

[“The Linked Data Benchmark Council \(LDBC\): Driving competition and collaboration in the graph data management space”](#), TPCTC, 2023

EU PROJECT IN 2013

MODELLED ON TPC

DEFINED DATA SETS

VARYING SCALE FACTORS

DEFINED WORKLOADS/QUERIES

COST-WEIGHTED METRICS

AUDITED PROCESS

FAIR USE POLICY

A HUB FOR GRAPH VENDORS,
RESEARCHERS, PRACTITIONERS

Purpose

NOT-FOR-PROFIT CONSORTIUM
GRAPH DATA WORKLOADS/TECH

RDF, LPG, SQL ...

BENCHMARK STANDARDS

PROMOTION OF GRAPH DATA

TUC MEETINGS

GQL/PGQ COMMUNITY

WG3 LIAISON

PUBLICATIONS

The Objects [Goals] of LDBC

4. OBJECTS

The Company is established for the following purposes (“the Objects”):

- 4.1. To develop, maintain and evolve credible industry benchmarks for graph and RDF database systems which enable users of information technology to better compare graph and RDF technology products and competing technologies such as (but not limited to) relational database systems.
- 4.2. To encourage innovation in graph and RDF technology by providing industry standards, primarily those which can measure improvements, and by participating in and organizing contributions to the formation of other related industry standards such as (but not limited to) query and schema languages, and in associated theoretical or experimental research.
- 4.3. To bring together persons involved in graph and RDF data management technology to provide a forum for the development of benchmarks and exchange of information about benchmark results.
- 4.4. To do all such other things as are necessary for the attainment of the above Objects or any of them.

Membership and Structure

COMPANY LIMITED BY GUARANTEE

MEMBERS NOT SHAREHOLDERS

MEMBERSHIP

VOTING

ASSOCIATE

POLICY COUNCIL

BOARD

BYE-LAWS

FAIR USE

Two classes of members

Individuals and Organisations

Voting Members

Pay fees, have votes

Individuals

Are on the MC

Organisations

Each member can **appoint**
an MC representative (right,
not obligation)

Same rights and obligations, no distinction between commercial and non-profit organisations

Individual Voting Members Peter, Gábor at present:

Individuals

Associate Members

No fees, no votes

Organizational members

SPONSOR COMPANIES



Ant Group



Beijing Volcano Engine



Oracle Labs

NON-COMMERCIAL INSTITUTES



COMPANIES



Alibaba Cloud



ArangoDB



创邻科技
CREATE LINK



JCC Consulting, Inc.



NebulaGraph



neo4j



pometry



RelationalAI



*Sparsity



海致星图



thatDot

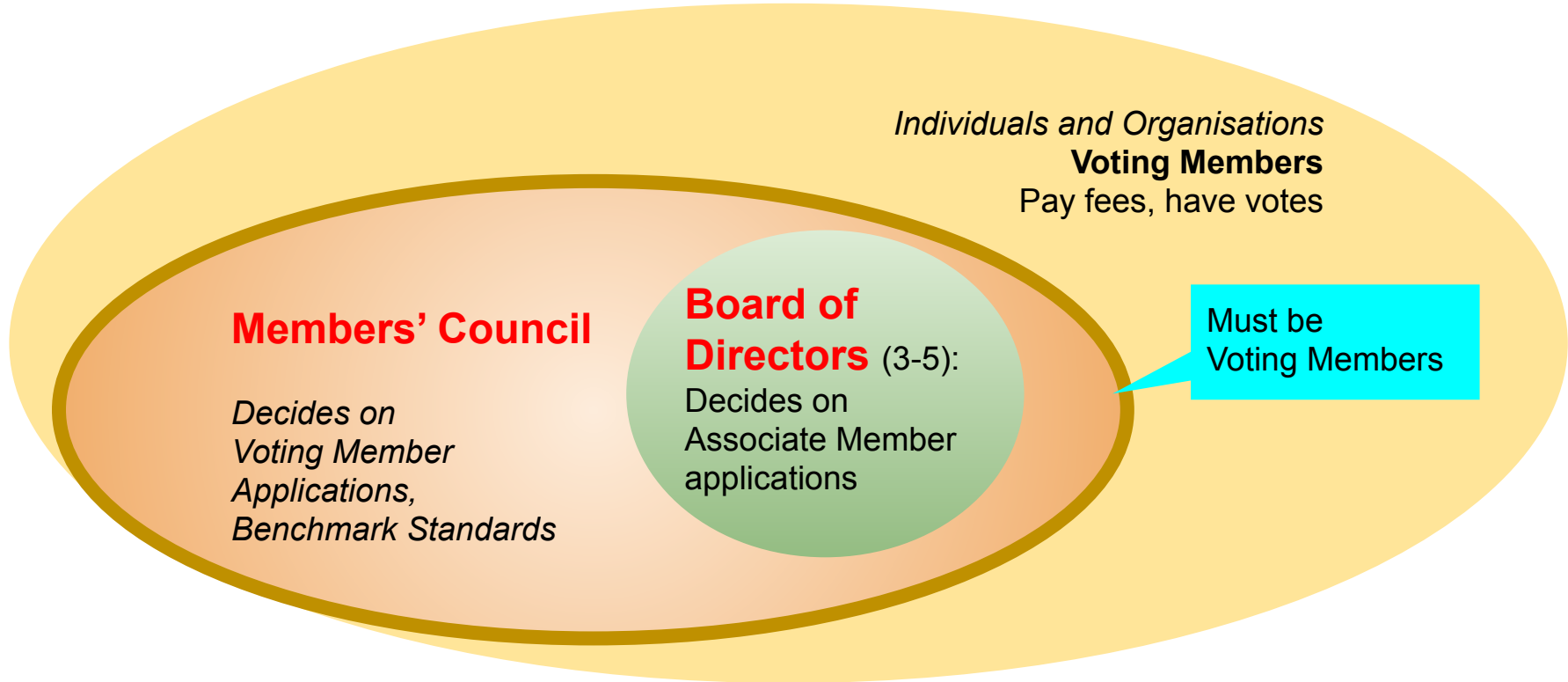


TigerGraph



ULTIP2™

Members Policy Council, BoD



Task Forces and Working Groups

BENCHMARK TF

SNB, Graphalytics

VOTING

ASSOCIATE

Benchmark standards: two Task Forces

OVERVIEW OF LDBC BENCHMARKS

Home / [Overview of LDBC Benchmarks](#)

LDBC currently offers the following benchmarks:

- **Graphalytics:** Graph algorithms for graph analytical platforms
- **Financial Benchmark:** Benchmark for financial workloads, targeting distributed systems
- **Semantic Publishing Benchmark:** An RDF-based benchmark for semantic databases
- **Social Network Benchmark Suite (SNB):** The SNB targets database management systems with graph-processing capabilities. It consists of two workloads, Interactive and Business Intelligence

Uses of LDBC benchmarks are subject to the [Fair Use Policy for LDBC Benchmarks](#).

— Gábor Szárnyas and Shipeng Qi will talk about these later

Benchmarking in the Gen AI era ...

PRODUCT UPDATES – 6 min read

- What is being measured?
- Opinions are solicited ...

RAG benchmarking: *Writer Knowledge Graph* ranks #1

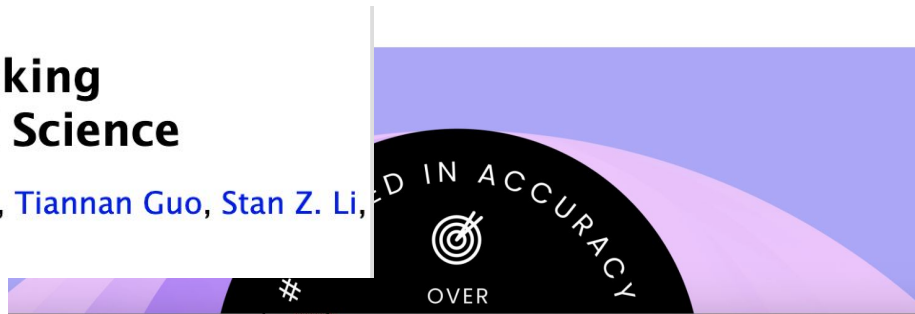


THE WRITER TEAM | June 12, 2024

[Submitted on 29 Jun 2024]

BioKGBench: A Knowledge Graph Checking Benchmark of AI Agent for Biomedical Science

Xinna Lin, [Siqi Ma](#), Junjie Shan, Xiaojing Zhang, Shell Xu Hu, Tiannan Guo, Stan Z. Li, Kaicheng Yu



New AI Benchmark to Measure RAG Model Performance

GQL Community: two Working Groups

LDBC Extended GQL Schema

Work Charter Themes

Alastair Green

13 October 2022, *r1 14 October*

LEX schema WG – Alastair Green

GQL Implementation WG – Michael Burbidge

— Talks later today!

9 May 2024

The GQL standard was published in mid-April by ISO. See WG3 Convenor Keith Hare's summary: [ISO/IEC JTC 1 GQL Database Language](#)

Linked Data Benchmark Council ([LDBC](#)) is releasing **early-version open-source GQL grammar tools**.

OPEN GQL LANGUAGE TOOLS

There are three interlinked projects:

- [ANTLR grammar repository](#)
- [GQL Code Editor Web UI](#) (and [repository](#))
- [Railroad Diagrams Web Page](#) (and [repository](#))

A commit of a new version of the grammar automatically rebuilds and deploys the Code Editor and the Railroad Diagrams.

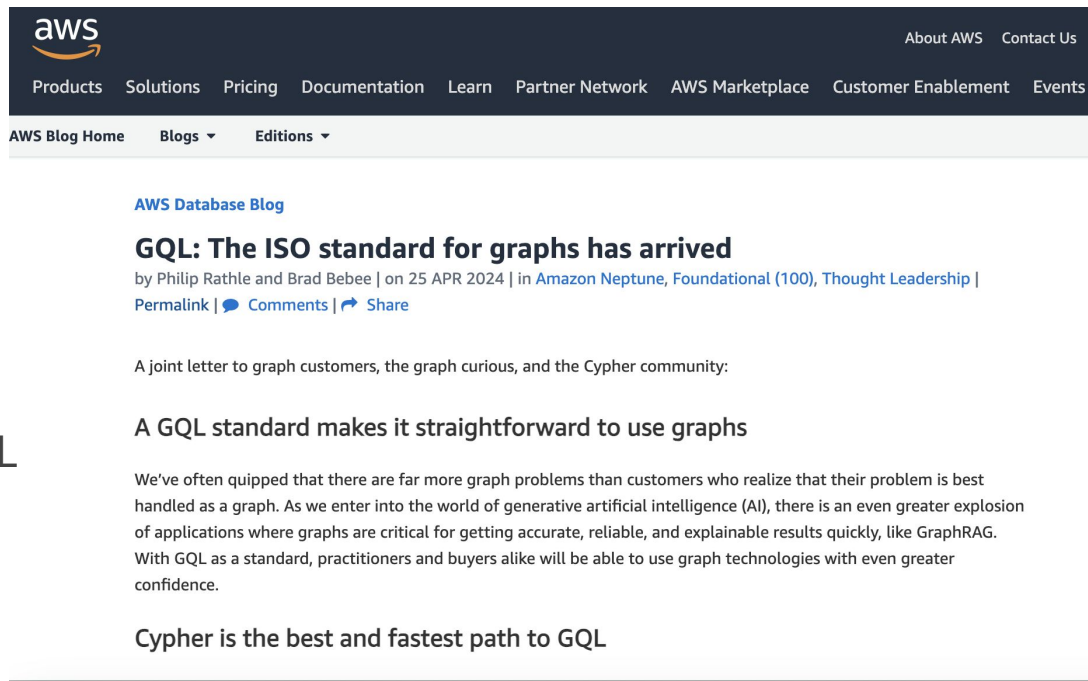
Michael Burbidge (who leads our GQL Implementation Working Group), **Damian Wileński**, and **Dominik Tomaszuk** are responsible for making all this happen, so soon after the release of GQL. Wonderful work!

openCypher and “openGQL”, OneGraph

Member initiatives

These examples come from Neo4j and AWS, but it could be any member.

LDBC is a forum for discussing, and publicizing: the Cypher/GQL Topic was discussed at length In our Policy Council



The screenshot shows the AWS Database Blog header with navigation links: Products, Solutions, Pricing, Documentation, Learn, Partner Network, AWS Marketplace, Customer Enablement, and Events. Below the header, the article title is "GQL: The ISO standard for graphs has arrived" by Philip Rathle and Brad Bebee, dated 25 APR 2024. The article content includes a joint letter to graph customers, the graph curious, and the Cypher community, and a section titled "A GQL standard makes it straightforward to use graphs".

aws About AWS Contact Us

Products Solutions Pricing Documentation Learn Partner Network AWS Marketplace Customer Enablement Events

AWS Blog Home Blogs Editions

[AWS Database Blog](#)

GQL: The ISO standard for graphs has arrived

by Philip Rathle and Brad Bebee | on 25 APR 2024 | in [Amazon Neptune](#), [Foundational \(100\)](#), [Thought Leadership](#) | [Permalink](#) | [Comments](#) | [Share](#)

A joint letter to graph customers, the graph curious, and the Cypher community:

A GQL standard makes it straightforward to use graphs

We've often quipped that there are far more graph problems than customers who realize that their problem is best handled as a graph. As we enter into the world of generative artificial intelligence (AI), there is an even greater explosion of applications where graphs are critical for getting accurate, reliable, and explainable results quickly, like GraphRAG. With GQL as a standard, practitioners and buyers alike will be able to use graph technologies with even greater confidence.

Cypher is the best and fastest path to GQL

Financial Position

INCOME

MEMBERSHIP FEES

AUDIT FEES

EXPENDITURE

ACCOUNTANCY/LEGAL

SOFTWARE SERVICES

CONTRACT STAFF

BENCHMARK INFRASTRUCTURE

EVENTS/TRAVEL: TUC MEETINGS

BALANCE SHEET

Financial position continues to be solid

Position at 31 July 2024 - Month

7

Forecast for the year ended 31/12/2024

Actuals to date	£
Opening retained earnings	29,781
Add: Income in the year to date	66,147
Less: Operating expenses to date	(26,740)
Less: Bank fees and FX movements - to date	(1,233)
Profit / (loss) to date	38,173
Closing retained earnings	67,954

Revised forecast for the year ended 31/12/2024	£
Opening retained earnings	29,781
Add: Income in the year	74,147
Less: Operating expenses	(73,133)
Less: Bank fees and FX movements	(1,268)
Forecast profit / (loss)	(255)
Closing retained earnings	29,526

Actual cash position to date	£
Opening cash (all accounts - stated in sterling)	38,805
Inflows (net of inter-account transfers)	84,169
Outflows (net of inter-account transfers)	(50,813)
Adjust to balance sheet (unrealised FX)	(339)
Closing cash (stated in sterling)	71,822

Forecast cash position for the year to 31/12/2024	£
Opening cash (all accounts - stated in sterling)	38,805
Inflows (net of inter-account transfers)	118,698
Outflows (net of inter-account transfers)	(117,984)
Adjust to balance sheet (FX)	(340)
Closing cash (stated in sterling)	39,179

2024 summary GBP '000s GBP-USD 1 : 1.30

Approximate forecast income (membership and audit fees), for whole year, is £75,000

Actual as of 31 July		Forecast year end 31 December	
Reserves at start of year	30	Reserves at start of year	30
Current reserves	90	Year-end reserves	30
Cash at start of year	39	Cash at start of year	39
Current cash	72	Year-end cash	40

**Thanks for your
attention and
support**

QUESTIONS

COMMENTS

SUGGESTIONS



Voting members meeting today

After the technical sessions, before dinner

Opportunity to talk in person for voting members in the this region

≥ 1 representatives of member companies

Peter Boncz, Chair

Alastair Green, Vice-chair

Shipeng Qi, Director

- Ideas, concerns about our activities, ways of working
- How to do things better in this region (avoid Euro- or American-centricity)

LDBC 

*The graph & RDF
benchmark reference*