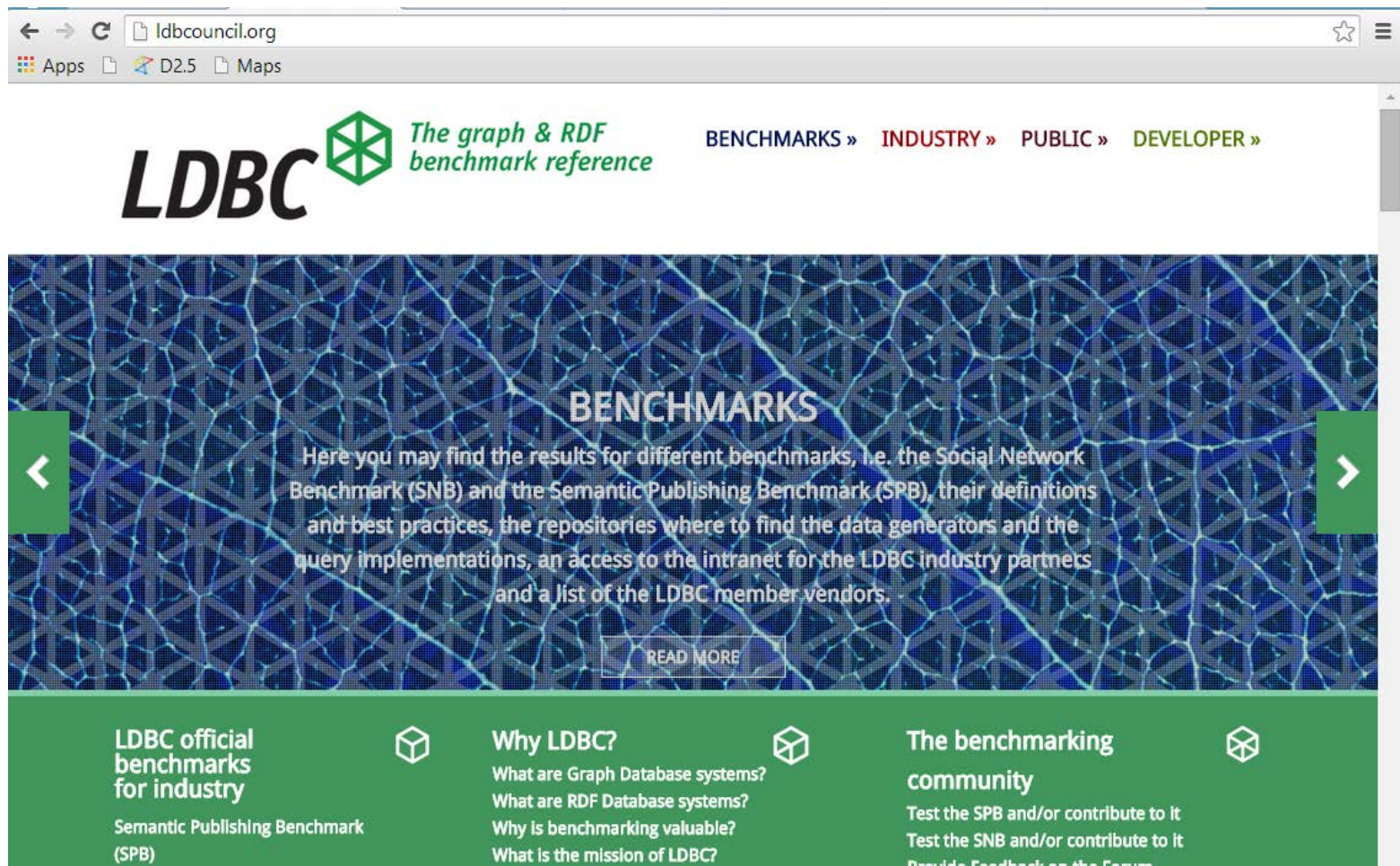


# Linked Data Benchmark Council

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[www.ldbcouncil.org](http://www.ldbcouncil.org)



The screenshot shows the LDBC website homepage. At the top, there is a navigation bar with the LDBC logo (a green cube) and the tagline "The graph & RDF benchmark reference". To the right of the logo are navigation links: "BENCHMARKS »", "INDUSTRY »", "PUBLIC »", and "DEVELOPER »". Below the navigation bar is a large banner with a blue and green geometric pattern. The banner features the word "BENCHMARKS" in large white letters, followed by a paragraph of text: "Here you may find the results for different benchmarks, i.e. the Social Network Benchmark (SNB) and the Semantic Publishing Benchmark (SPB), their definitions and best practices, the repositories where to find the data generators and the query implementations, an access to the intranet for the LDBC Industry partners and a list of the LDBC member vendors." Below this text is a "READ MORE" button. At the bottom of the page, there are three columns of content, each with a green cube icon. The first column is titled "LDBC official benchmarks for industry" and lists "Semantic Publishing Benchmark (SPB)". The second column is titled "Why LDBC?" and lists questions: "What are Graph Database systems?", "What are RDF Database systems?", "Why is benchmarking valuable?", and "What is the mission of LDBC?". The third column is titled "The benchmarking community" and lists: "Test the SPB and/or contribute to it", "Test the SNB and/or contribute to it", and "Provide Feedback on the Forum".

# What is the LDBC?

## Linked Data Benchmark Council = LDBC

- Industry entity similar to TPC ([www.tpc.org](http://www.tpc.org))
- Focusing on graph and RDF store benchmarking

The screenshot displays the TPC-H Top Ten Performance Results - Non-Clustered Version 2 Results page. The page is organized into sections for different database sizes: 100 GB, 300 GB, and 1,000 GB. Each section contains a table of results with columns for Rank, Company, System, QphH, Price/QphH, Watts/KQphH, System Availability, Database, Operating System, and Date Submitted.

**100 GB Results**

Rank	Company	System	QphH	Price/QphH	Watts/KQphH	System Availability	Database	Operating System	Date Submitted
1	Lenovo	Lenovo ThinkServer RD630	420,092	.11 USD	NR	05/13/13	VectorWise 3.0.0	Red Hat Enterprise Linux 6.4	05/13/13

**300 GB Results**

Rank	Company	System	QphH	Price/QphH	Watts/KQphH	System Availability	Database	Operating System	Date Submitted
1	Lenovo	Lenovo ThinkServer RD630	434,353	.24 USD	NR	05/10/13	VectorWise 3.0.0	Red Hat Enterprise Linux 6.4	05/10/13

**1,000 GB Results**

Rank	Company	System	QphH	Price/QphH	Watts/KQphH	System Availability	Database	Operating System	Date Submitted
1	CISCO	Cisco UCS C460 M4 Server	588,831	.97 USD	NR	12/16/14	Microsoft SQL Server 2014 Enterprise Edition	Microsoft Windows Server 2012 R2 Standard	12/15/14
2	inspur	INSPUR K1	585,319	3.42 CNY	NR	09/04/14	Action Analytics Database - Vector 3.5.1	K-UX2.2	09/03/14
3	IBM	IBM System x3850 X6	519,976	1.36 USD	NR	04/16/14	Microsoft SQL Server 2014 Enterprise Edition	Microsoft Windows Server 2012 R2 Standard	04/15/14
4	inspur	INSPUR K1	485,242	4.03 CNY	NR	06/04/14	Action Vector 3.0.0	K-UX2.2	06/03/14

# LDBC Organization (non-profit)



“sponsors”



- + non-profit members (FORTH) & personal members
- + **Task Forces**, volunteers developing benchmarks
- + **TUC**: Technical User Community (9 workshops, ~45 graph and RDF user case studies, ~20 vendor presentations)

# LDDBC Task Forces

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- Semantic Publishing Benchmark Task Force
  - Develops industry-grade RDF benchmark
- Social Network Benchmark Task Force
  - Develops benchmark for graph data management systems
  - Broad coverage: three workloads
- Graph Analytics Task Force
  - Spin-off from the SNB task force (third workload)
- Graph Query Language Task Force
  - Studies features of graph database query languages

# LDBC benchmarks consist of..

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- Four main elements:
  - ***data schema***: defines the structure of the data
  - ***workloads***: defines the set of operations to perform
  - ***performance metrics***: used to measure (quantitatively) the performance of the systems
  - ***execution rules***: defined to assure that the results from different executions of the benchmark are valid and comparable
- Software as Open Source (GitHub)
  - data generator, query drivers, validation tools, ...