Linked Data Benchmark Council
2.5-year status report

Peter Boncz
Why Benchmarking?

• make competing products comparable (quantify)
  – E.g. make the case for graphDB vs RDBMS
  – measure progress in versions/products

• accelerate progress, make technology viable
  – Maturing RDF systems
  – Maturing property graph systems
  – Maturing graph programming frameworks
BENCHMARKS

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.

LDLC official benchmarks for industry
Semantic Publishing Benchmark (SPB)

Why LDBC?
What are Graph Database systems?
What are RDF Database systems?
Why is benchmarking valuable?
What is the mission of LDBC?

The benchmarking community
Test the SPB and/or contribute to it
Test the SNB and/or contribute to it
Provide feedback on the Forum
LDBC: what systems?

Benchmarks for:

• Graph Database systems
  – Neo4j, SparkSee, InfiniteGraph, ...

• RDF stores (SPARQL speaking)
  – Virtuoso, GraphDB, BlazeGraph, Allegrograph, ...

• Graph Programming Frameworks
  – Giraph, Green Marl, Grappa, GraphLab, ...

• Relational Database systems
Industry Membership

- OPEN LINK SOFTWARE
  "Making Technology Work For You"

- SPARQL city
  "Question anything. Know everything."

- Neo Technology
  "graphs are everywhere"

- *Sparsity

- ontotext

- IBM

- Oracle LABS

- LDBC
  "Linked Data Benchmark Council"
What is LDBC doing now?

Two main “task forces”:

• Semantic Publishing Benchmark (SPB)
  – BBC use case – RDF oriented
  – New version 2.0 with extended ontologies

• Social Network Benchmark (SNB)
  – Interactive workload (ready)
  – BI workload (almost draft)
  – Graph algorithms workload

See: [github.com/LDBC](https://github.com/LDBC)
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• Semantic Publishing Benchmark (SPB)
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• Social Network Benchmark (SNB)
  – Interactive workload (ready)
  – BI workload (almost draft)

• SNB Analytics Benchmark
  – Graph algorithms workload (graphalytics)
  – Partnering with TU Delft / Oracle Labs

See: github.com/LDBC
SNB: Workloads

- **Interactive**: tests a system's throughput with relatively simple queries with concurrent updates
  
  - *Show all photos posted by my friends that I was tagged in*

- **Business Intelligence**: consists of complex structured queries for analyzing online behavior
  
  - *Influential people the topic of open source development?*

- **Graph Analytics**: tests the functionality and scalability on most of the data as a single operation
  
  - *PageRank, Shortest Path(s), Community Detection*
    
    ➔ *GRAPHALYTICS cooperation (TU Delft, Oracle Labs)*
Semantic Publishing Benchmark (SPB)

Information on this page will not be updated. Facts were accurate as of August 13, 2012.

Bulgaria

Team GB's Campbell secures medal

Luke Campbell is guaranteed an Olympic medal after beating Bulgaria’s Detelin Dalakliev in his bantamweight semi-final.
5 Aug 12

Bulgaria beat GB volleyball men
MENS VOLLEYBALL
29 Jul 12

Great Britain's men produce a battling display on their Olympic debut but are beaten in straight sets by Bulgaria at Earls Court.

Medal Table

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Gold</th>
<th>Silver</th>
<th>Bronze</th>
<th>Total</th>
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<td>United States</td>
<td>46</td>
<td>29</td>
<td>29</td>
<td>104</td>
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<td>2</td>
<td>China</td>
<td>38</td>
<td>27</td>
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<tr>
<td>63</td>
<td>Bulgaria</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Bulgaria Medallists

Bronze
Tsvet Pulev
Men's Heavyweight (91kg)

Silver
Stanka Zlateva Hristova
Women's Freestyle 72kg
Getting the word Out

• LDBC is getting a second life!
  – new & independent logo, infrastructure

• Benchmark Results Campaign
  – Social Media, Blogs, White Papers, Press Releases, Marketing,…
  – SPB 2.0 Audited results:
    • ONTO/OWLIM
    • Openlink/Virtuoso
  – SNB 1.0 Audited Results:
    • Sparsity/Sparksee
    • Openlink/Virtuoso
    • HP Labs/Titan
LDBC Roadmap

• EU project almost done
  – Final review April 28, Luxemburg
  – LDBC non-profit company takes over
  – Writing an Elsevier book

• 7th Technical User Community Meeting
  – November 2015, at TJ Watson

• GRADES 2015 workshop
  – May 31, SIGMOD/PODS 2015 @ Melbourne, Australia (!)

• Focus on Benchmark Results
  – Officially adopt SNB + SPB
  – Produce Audited Results