5th TPC Technology Conference on Performance Evaluation and Benchmarking

TPCTC 2013

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General Chair

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VLDB 2013

39th International Conference on
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Riva del Garda, Trento, August 26th - 31st

Industry Standard Benchmarks

- Industry standard benchmarks have played, and continue to play, a crucial role in the advancement of the computing industry
- Demands for them have existed since buyers were first confronted with the choice between purchasing one system over another
- Proven critical to both buyers and vendors: buyers use benchmark results when evaluating new systems in terms of performance, price/performance and energy efficiency, while vendors use benchmarks to demonstrate competitiveness of their products and to monitor release-to-release progress of their products under development
- Historically we have seen that industry standard benchmarks enable healthy competition that results in product improvements and the evolution of brand new
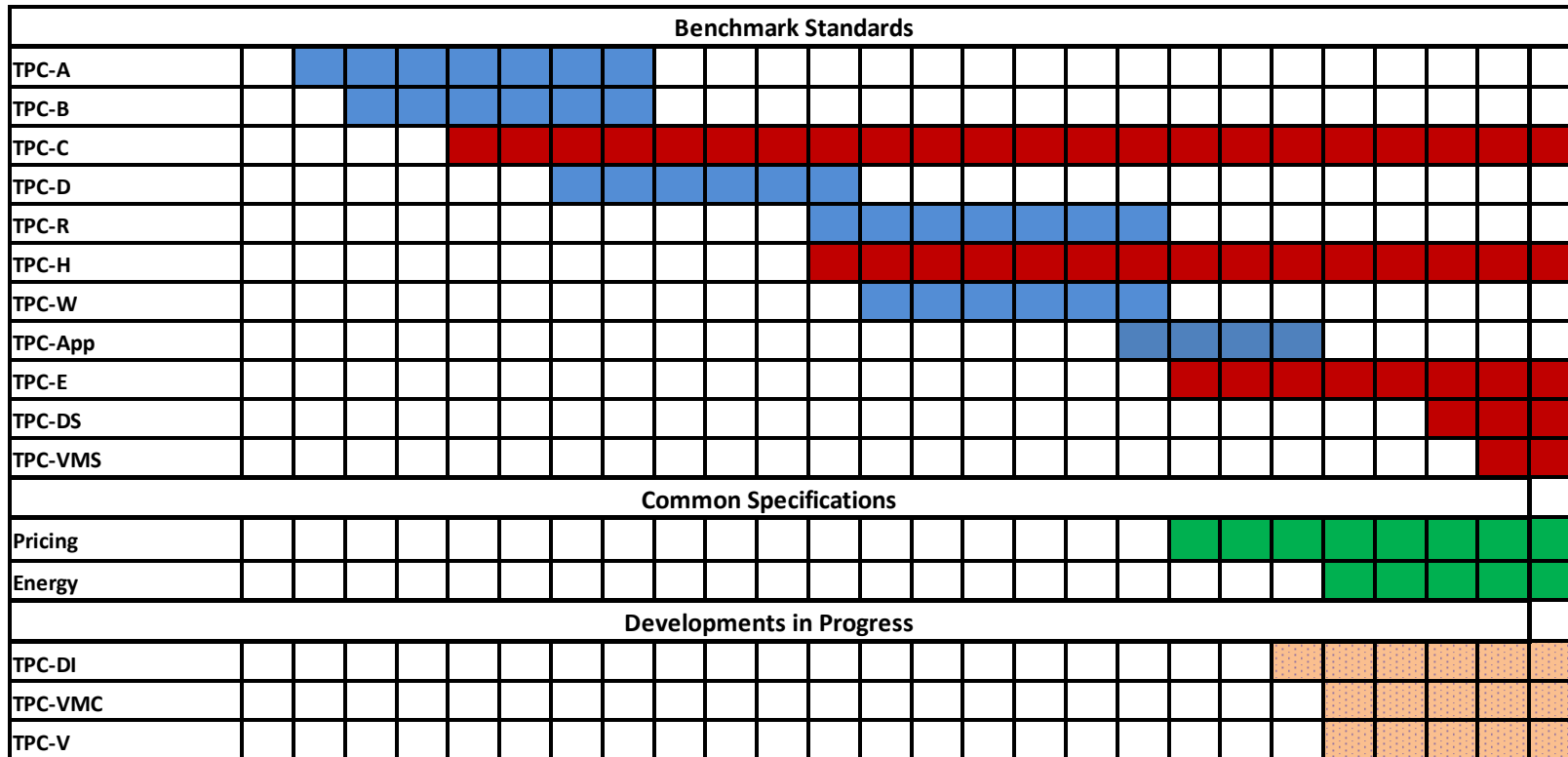
Transaction Processing Performance Council (TPC)

- The TPC is a non-profit, vendor-neutral organization, established in August 1988

- Reputation of providing the most credible performance results to the industry.

- Role of "consumer reports" for the computing industry

- Solid foundation for complete system-level performance

- Methodology for calculating total-system-price and price-performance

- Measuring energy efficiency

Major Activities of the TPC

- Refinement of existing benchmarks

- Development of new benchmarks

- Publication of benchmark results

- Promotion of the TPC model and results

- Resolution of disputes and challenges

TPC Benchmark Timeline

TPCTC 2013

Membership

Full Members

CISCO	DELL	FUJITSU	hp invent	HITACHI
HUAWEI	IBM	intel	Microsoft	NEC
ORACLE	redhat	SYBASE An SAP Company	TERADATA Raising Intelligence	UNISYS
vmware				

Associate Members

ideas International	ITOM International Co.	SDSC SAN DIEGO SUPERCOMPUTER CENTER	TTA Telecommunications Technology Association	U C

16 full members and 5 associate members

Associate Members: Non-profit organizations as well as market research and press organizations.
Join the TPC: http://www.tpc.org/information/about/join.asp

Challenges

- Rapidly changing industry landscape
  - Areas of focus
    - Transaction Processing and data warehouse (1990ies)
    - Energy efficiency (early 2000)
    - Massive scale data centers (early 2000)
    - Virtualization (mid 2005)
    - Big Data (now)
    - Cloud (now)
  - Time to Market
    - Longer development cycle
- Consolidation
  - HP + DEC + EDS + Compaq + Tandem=HP
  - EDW consolidation (Greenplum, Vertica, ParAccel, Aster)

TPCTC Mission

- Founded in 2009
- Keep pace with technological changes
- Explore new areas, ideas and methodologies for performance evaluating an benchmarking
- Enhancements to existing TPC benchmarks inline with technology and industry trends
- Foster collaboration between industry experts and research community

TPCTC

Co-located with VLDB since 2009

Year	Location	Keynote
2009	Lyon	Michael Stonebraker
2010	Singapore	C Mohan
2011	Seattle	Umeshwar Dayal
2012	Istanbul	Michael J. Carey
2013	Riva del Grada	Raghu Ramakrishnan

- Proceedings published by Springer
- Listed under TPC Technical articles portal, DBLP

Impact of TPCTC

- New members joining the TPC
- New collaborations with universities
- Development of a TPC virtualization benchmark
- Development of a TPC data integration benchmark
- Several Lessons learned in practice
- Formation of WBDB initiative (outside the TPC)

TPCTC 2013 Presentations

- 10 Presentations
  - 8 Accepted papers (25+5 Minutes)
- Invited Presentation, 10:30-11:30, TPC Express – A New Path for TPC Benchmarks by Karl Huppler
- Keynote, 14:00-15:00, Benchmarking Challenges in the New World of Big Data and Cloud Services by Raghu Ramakrishnan

Programme

8:30 – 9:00
TPC State of the Council 2013: Raghunath Nambiar (Cisco), Meikel Poess (Oracle), Andrew Masland (NEC), H. Reza Taheri (VMware), Andrew Bond (RedHat), Forrest Carman (Owen Media), Michael Majdalany (L&M Mgmt Group)

9:00-9:30
TPC-BiH: A Benchmark for Bi-Temporal Databases: Martin Kaufmann (SAP AG, ETH Zurich), Peter Fischer (Albert-Ludwigs-Universit•at); Norman May (SAP AG); Andreas Tonder (SAP AG); Donald Kossmann (ETH Zurich)

9:30-10:00
Towards Comprehensive Measurement of Consistency Guarantees for Cloud-Hosted Data Storage Services: David Bermbach (KIT); Liang Zhao (NICTA and University of New South Wales), Sherif Sakr (NICTA and University of New South Wales)

10:00-10:30
Coffee Break

10:30-11:30
Invited Talk
TPC Express – A New Path for TPC Benchmarks: Karl Huppler

11:30-12:00
TPC-H Analyzed: Hidden Messages and Lessons Learned from an Influential Benchmark: Peter Boncz (CWI); Thomas Neumann (Technical University Munich); Orri Erling (Openlink Software)

12:00-14:00
Lunch Break

Programme

14:00-15:00
Benchmarking Challenges in the New World of Big Data and Cloud Services: Raghu Ramakrishnan (Microsoft)

15:00-15:30
Architecture and Performance characteristics of a PostgreSQL implementation of TPC-E and TPC-V workloads: H. Reza Taheri (VMware); Andrew Bond (RedHat); Doug Johnson (InfoSizing); Greg Kopczynski (VMware)

15:30-16:00
Coffee Break

16:00-16:30
A Practice of TPC-DS Multidimensional Implementation in NoSQL Database Systems: Hongwei Zhao (Tsinghua University); Xiaojun YE (Tsinghua University)

16:30-17:00
PRIMEBALL: Parallel Processing Framework Benchmark, for BigData Applications in the Cloud: Jaume Ferrarons (Universite de Lyon); Mulu Adhana (Universite de Lyon); Carlos Colmenares; (Universite de Lyon) Sandra Pietrowska; Fadila Bentayeb (Universite de Lyon); Jerome Darmont (Universite de Lyon)

17:00-17:30
CEPBen: A Benchmark for Complex Event Processing Systems: Chunhui Li (Aston University); Robert Berry Aston (University)

17:30-18:00
Closing Remarks: Meikel Poess

Acknowledgements

Acknowledgements

Authors

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5. Michael Majdalany (L&M Mgmt Group)
6. Martin Kaufmann (SAP AG, ETH Zurich)
7. Peter Fischer (Albert-Ludwigs-Universit•at)
8. Norman May (SAP AG)
9. Andreas Tonder (SAP AG)
10. Donald Kossmann (ETH Zurich)
11. David Bermbach (KIT)
12. Liang Zhao (NICTA and University of New South Wales)
13. Sherif Sakr (NICTA and University of New South Wales)
14. Karl Huppler
15. Peter Boncz (CWI)
16. Thomas Neumann (Technical University Munich)
17. Orri Erling (Openlink Software)
18. Raghu Ramakrishnan (Microsoft)
19. Doug Johnson (InfoSizing)
20. Greg Kopczynski (VMware)
21. Hongwei Zhao (Tsinghua University);
22. Xiaojun YE (Tsinghua University)
23. Jaume Ferrarons (Universite de Lyon)
24. Mulu Adhana (Universite de Lyon)
25. Carlos Colmenares (Universite de Lyon)
26. Sandra Pietrowska (Universite de Lyon)
27. Fadila Bentayeb (Universite de Lyon
28. Jerome Darmont (Universite de Lyon)
29. Chunhui Li (Aston University)
30. Robert Berry (Aston University)

TPCTC 2014

40th International Conference on Very Large Data Bases
2014 Very Large Data Bases
Hangzhou, China, September 1st - 5th

6th TPC Technology Conference on Performance Evaluation and Benchmarking

Call for Papers

Since its formation in 1988, the Transaction Processing Performance Council (TPC) has had a significant impact on the computing industry's use of industry-standard benchmarks. Vendors use TPC benchmarks to illustrate performance competitiveness for their products, and to improve and monitor the performance of their products under development. Buyers use TPC benchmark results as points of comparison when purchasing new systems.

The information technology landscape is evolving at a rapid pace, challenging industry experts and researchers to develop innovative techniques for evaluation, measurement and characterization of complex systems. The TPC remains committed to developing new benchmark standards to keep pace, and one vehicle for achieving this objective is the sponsorship of the Technology Conference Series on Performance Evaluation and Benchmarking (TPCTC). Over the last

VLDB Approvals pending