



TPC Technology Conference on Performance Evaluation and Benchmarking

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General Chair

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August 29, 2011

Welcome to Seattle



VLDB2011

37th International Conference on Very Large Data Bases
Aug 29 - Sep 3 : The Westin, Seattle, WA




VLDB 2011, 37th International Conference on Very Large Data Bases

The Westin, Seattle, Washington, August 28th - 3rd September 2011

TPC Transaction Processing Performance Council

Full Members

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Associate Members

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Mission: TPC is a non-profit corporation founded to define transaction processing and database benchmarks and to disseminate objective, verifiable TPC performance data to the industry.

TPC Benchmarks – A Timeline

| Benchmark Standards | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TPC-A | | | █ | █ | █ | █ | █ | █ | | | | | | | | | | | | | | | | |
| TPC-B | | | █ | █ | █ | █ | █ | | | | | | | | | | | | | | | | | |
| TPC-C | | | | | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | | |
| TPC-D | | | | | | | █ | █ | █ | █ | █ | | | | | | | | | | | | | |
| TPC-R | | | | | | | | | | | █ | █ | █ | █ | █ | █ | | | | | | | | |
| TPC-H | | | | | | | | | | | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | | |
| TPC-W | | | | | | | | | | | █ | █ | █ | █ | █ | █ | | | | | | | | |
| TPC-App | | | | | | | | | | | | | | | | | █ | █ | █ | | | | | |
| TPC-E | | | | | | | | | | | | | | | | | | █ | █ | █ | █ | █ | | |
| Common Specifications | | | | | | | | | | | | | | | | | | | | | | | | |
| Pricing | | | | | | | | | | | | | | | | | | | | | █ | █ | | |
| Energy | | | | | | | | | | | | | | | | | | | | | █ | █ | | |
| Developments in Progress | | | | | | | | | | | | | | | | | | | | | | | | |
| TPC-DS | | | | | | | | | | | | | | | | | | | | | | █ | | |
| TPC-ETL | | | | | | | | | | | | | | | | | | | | | | █ | | |
| TPC-V | | | | | | | | | | | | | | | | | | | | | | █ | | |
| | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |

- █ Obsolete
- █ Active
- █ Common Specifications
- █ In the pipeline

TPCTC is a forum to

- Keep pace with technological changes:
 - The methodologies and benchmarks of today need to evolve to meet the demands
 - We are challenged to develop innovative new techniques that evaluate performance and benchmarking for both software and hardware
- Present and debate novel ideas and methodologies in performance evaluation and benchmarking
- Foster collaboration between database research community and industry experts
- Present and discuss enhancements to existing TPC benchmarks

TPCTC 2009 Summary

- Highlights
 - First TPC Technology Conference focusing on Performance Evaluation and Benchmarking co-located with VLDB 2009, Lyon, France
 - Proceedings available from Springer-Verlag
 - Keynote by Michael Stonebraker (MIT)
- Outcome
 - Paper on virtualization caused TPC-Virtualization benchmark development to be formed
 - Paper on dependability benchmarks sparked collaboration with TPC members
 - TPC-ETL development subcommittee received input from HP Labs group working on ETL benchmarks

TPCTC 2010 Summary

- Highlights
 - Second TPC Technology Conference focusing on Performance Evaluation and Benchmarking co-located with VLDB 2010, Singapore
 - Proceedings available from Springer-Verlag
 - Keynote by Mohan (IBM Research - Almaden)
- Outcome
 - Paper on generic data generator (PDGF) caused TPC-ETL subcommittee to use PDGF and TPC-H development subcommittee to evaluate it for TPC-H
 - Paper to add dependability metric to TPC benchmarks, which sparked idea in TPC to include dependability aspects/high availability aspects in TPC-E
 - Position paper on TPC-Energy specification

TPCTC 2011 Organization

General Chairs:

Raghunath Nambiar, Cisco, USA, rnambiar@cisco.com

Meikel Poess, Oracle, USA, meikel.poess@oracle.com

Program Committee:

Alfredo Cuzzocrea, University of Calabria, Italy

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Andrew Masland, NEC, USA

Matthew Lanken, Oracle, USA

Peter Thawley, Sybase, USA

Michael Majdalany, L&M Management
Group, USA

Forrest Carman, Owen Media, USA

Keynote Speaker:

Umeshwar Dayal, HP Labs, USA

Invited Speaker:

Karl Huppler, IBM, USA

TPCTC Press

- **Conference Addresses the Future of Benchmarking**
 - **Consumer Electronic Wins, Network Computing, NetworkingThis.com**
 - **By Steve Wexler**
 - **August 23, 2011**
 - <http://www.networkcomputing.com/end-to-end-apm/231500530>
- **Microsoft Wants TPC-E Metric to Measure Database Availability**
 - **CIO.com, Computerworld, FeedJunkie.com, IDG News, InfoWorld, PCWorld, ThunderFeeds.com**
 - **By Joab Jackson**
 - **August 29, 2010**
 - http://www.computerworld.com/s/article/9219550/Microsoft_wants_TPC_E_metric_to_measure_database_availability?taxonomyId=173&pageNumber=1

| Programme | | |
|--|-------------|--|
| Welcome and Opening Remarks | 08:00-08:30 | Breakfast |
| | 08:30-08:50 | TPC Technology Conference on Performance Evaluation and Benchmarking: Raghunath Nambiar, General Chair (Cisco) |
| TPC Public Relations Presentation | 08:50-09:15 | Shaping the Landscape of Industry Standard Benchmarks: Contributing of the Transaction Processing Performance Council (TPC): Raghunath Nambiar (Cisco); Nicholas Wakou (Dell); Peter Thawley (Sybase), Andrew Masland (NEC); Matthew Lanken (Oracle); Michael Majdalany (LoBue & Majdalany Magt Group); Forrest Carman (Owen Media) |
| Session 1: New Benchmark Ideas | 09:15-09:40 | Metrics for Measuring the Performance of the Mixed Workload CH-benCHmark: Florian Funke, Alfons Kemper, Stefan Krompass, Thomas Neumann, Michael Seibold (Technische Universität München); Harumi Kuno (HP Labs); Anisoara Nica (Sybase); Meikel Poes (Oracle) |
| | 09:40-10:05 | Towards an Enhanced Benchmark Advocating Energy-Efficient Systems: Daniel Schall, Volker Hoefner (University of Kaiserslautern); Manuel Kern (SPH AG) |
| | 10:05-10:30 | Coffee Break |
| Keynote | 10:30-11:10 | Optimization of Analytic Data Flows for Next Generation Business Intelligence Applications: Umeshwar Dayal (HP Labs) |
| Session 1: New Benchmark Ideas (Continued) | 11:10-11:35 | Normalization in a Mixed OLTP and OLAP Workload Scenario: Anja Bog, Alexander Zeier (Hasso Plattner Institute); Kai Sachs (SAP AG) |
| | 11:35-12:00 | Performance Metrics for Complex Event Processing Systems: Torsten Grabs, Ming Lu (Microsoft) |
| | 12:00-13:30 | Lunch Break |
| Invited Talk | 13:30-14:10 | Benchmarking With Your Head in the Cloud: Karl Huppler (IBM) |
| Session 2: Extending TPC Benchmarks | 14:10-14:35 | Extending TPC-E to Measure Availability in Database Systems: Yantao Li, Charles Levine (Microsoft) |
| | 14:35-15:00 | APDGF Implementation for TPC-H: Meikel Poes (Oracle); Tilmann Rabl, Manuel Danisch, Michael Frank (Universität Passau) |
| | 15:00-15:30 | Coffee Break |
| | 15:30-15:55 | Introducing Skew into the TPC-H Benchmark: Alain Crotte, Ahmad Ghazal (Teradata) |
| Session 3: Performance Modeling and Characterization | 15:55-16:20 | Time and Cost-Efficient Modeling and Generation of Large-Scale TPC Workloads: Christina Delimitrou, Christos Kozyrakis (Stanford University); Sriram Sankar, Badriddine Khessib, Kushagra Vaid (Microsoft) |
| | 16:20-16:45 | When free is not really free: What does it cost to run a database workload in the cloud?: Avriilia Floratou, Willis Lang, Jignesh Patel (University of Wisconsin); Alan Halverson (Microsoft) |
| | 16:45-17:10 | A Fine-grained Performance-based Decision Model for Virtualization Application Solution: Jianhai Chen, Dawei Huang, Bei Wang, Deshi Ye, Qinming He, Wenzhi Chen (Zhejiang University) |
| | 17:10-17:35 | SI-CV: Snapshot Isolation With Co-Located Versions: Robert Gottstein, Ilia Petrov, Alejandro Buchmann (TU-Darmstadt) |
| Closing Remarks | 17:35-18:00 | Benchmarking for 2012 and Beyond: Meikel Poes, General Chair (Oracle) |

Acknowledgements

TPC Transaction Processing
Performance Council



