





























- [35] Hideaki Kimura. 2015. FOEDUS: OLTP Engine for a Thousand Cores and NVRAM. In *Proceedings of the 2015 ACM SIGMOD/PODS Conference*. ACM, Melbourne, Victoria, Australia, 691–706.
- [36] FAL Labs. 2011. Kyoto Cabinet: a straightforward implementation of DBM. <http://fallabs.com/kyotocabinet/>.
- [37] Hyeontaek Lim, Dongsu Han, David G. Andersen, and Michael Kaminsky. 2014. MICA: A Holistic Approach to Fast In-memory Key-value Storage. In *Proceedings of the 11th USENIX Symposium on Networked Systems Design and Implementation (NSDI)*. Seattle, WA, 429–444.
- [38] Hyeontaek Lim, Michael Kaminsky, and David G. Andersen. 2017. Cicada: Dependably Fast Multi-Core In-Memory Transactions. In *Proceedings of the 2017 ACM SIGMOD/PODS Conference*. ACM, Chicago, Illinois, USA, 21–35.
- [39] Heiner Litz, David Cheriton, Amin Firoozshahian, Omid Azizi, and John P. Stevenson. 2014. SI-TM: Reducing Transactional Memory Abort Rates Through Snapshot Isolation. In *Proceedings of the 18th ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*. ACM, Salt lake city, UT, 383–398.
- [40] Jean-Pierre Lozi, Florian David, Gaël Thomas, Juli a Lawall, and Gilles Muller. 2012. Remote Core Locking: Migrating Critical-section Execution to Improve the Performance of Multithreaded Applications. In *Proceedings of the 2012 USENIX Annual Technical Conference (ATC)*. USENIX Association, Boston, MA, 6–6.
- [41] Linux manual page. 2017. perf Manual. <http://man7.org/linux/man-pages/man1/perf.1.html>.
- [42] Alexander Matveev, Nir Shavit, Pascal Felber, and Patrick Marlier. 2015. Read-log-update: A Lightweight Synchronization Mechanism for Concurrent Programming. In *Proceedings of the 25th ACM Symposium on Operating Systems Principles (SOSP)*. ACM, Monterey, CA, 168–183.
- [43] Paul E. McKenney. 1998. Structured Deferral: Synchronization via Procrastination. *ACM Queue* (1998), 20:20–20:39.
- [44] Paul E. McKenney. 2012. RCU Linux Usage. <http://www.rdrop.com/~paulmck/RCU/linuxusage.html>.
- [45] Paul E. McKenney, Jonathan Appavoo, Andy Kleen, Orran Krieger, Rusty Russell, Dipankar Sarma, and Maneesh Soni. 2002. Read-Copy Update. In *Ottawa Linux Symposium (OLS)*.
- [46] Frank McSherry, Michael Isard, and Derek G. Murray. 2015. Scalability! But at what COST?. In *15th USENIX Workshop on Hot Topics in Operating Systems (HotOS) (HotOS XV)*. USENIX Association, Kartause Ittingen, Switzerland.
- [47] Maged M. Michael. 2002. Safe Memory Reclamation for Dynamic Lock-free Objects Using Atomic Reads and Writes. In *Proceedings of the 21st ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC)*. Monterey, California, 21–30.
- [48] Changwoo Min, Sanidhya Kashyap, Steffen Maass, Woonhak Kang, and Taesoo Kim. 2016. Understanding Manycore Scalability of File Systems. In *Proceedings of the 2016 USENIX Annual Technical Conference (ATC)*. USENIX Association, Denver, CO, 71–85.
- [49] Donald Nguyen and Keshav Pingali. 2017. What Scalable Programs Need from Transactional Memory. In *Proceedings of the 22nd ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*. ACM, Xi'an, China, 105–118.
- [50] Yang Ni, Vijay S. Menon, Ali-Reza Adl-Tabatabai, Antony L. Hosking, Richard L. Hudson, J. Eliot B. Moss, Bratin Saha, and Tatiana Shpeisman. 2007. Open Nesting in Software Transactional Memory. In *Proceedings of the 6th ACM Symposium on Principles and Practice of Parallel Programming (PPoPP)*. ACM, SAN Francisco, CA, USA, 68–78.
- [51] Oracle. 2004. *Oracle Database Concepts 10g Release 1 (10.1) Chapter 13 : Data Concurrency and Consistency àÀ Oracle Isolation Levels*. [https://docs.oracle.com/cd/B12037\\_01/server.101/b10743/consist.htm](https://docs.oracle.com/cd/B12037_01/server.101/b10743/consist.htm).
- [52] Andrew Pavlo, Gustavo Angulo, Joy Arulraj, Haibin Lin, Jiexi Lin, Lin Ma, Prashanth Menon, Todd Mowry, Matthew Perron, Ian Quah, Sidharth Santurkar, Anthony Tomasic, Skye Toor, Dana Van Aken, Ziqi Wang, Yingjun Wu, Ran Xian, and Tieying Zhang. 2017. Self-Driving Database Management Systems. In *Proceedings of the 39th biennial Conference on Innovative Data Systems Research (CIDR)*. Chaminade, California.
- [53] Aleksey Pesterev, Jacob Strauss, Nikolai Zeldovich, and Robert T. Morris. 2012. Improving Network Connection Locality on Multicore Systems. In *Proceedings of the 7th European Conference on Computer Systems (EuroSys)*. ACM, Bern, Switzerland, 337–350.
- [54] PostgreSQL. 2018. Serializable Snapshot Isolation (SSI) in PostgreSQL. <https://wiki.postgresql.org/wiki/SSI>.
- [55] Sepideh Roghanchi, Jakob Eriksson, and Nilanjana Basu. 2017. Ffwd: Delegation is (Much) Faster Than You Think. In *Proceedings of the 26th ACM Symposium on Operating Systems Principles (SOSP)*. ACM, Shanghai, China, 342–358.
- [56] Alexander Spiegelman, Guy Golan-Gueta, and Idit Keidar. 2016. Transactional Data Structure Libraries. In *Proceedings of the 2016 ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*. ACM, Santa Barbara, CA, 682–696.
- [57] Paul Teich. 2017. The New Server Economies of Scale for AMD. <https://www.nextplatform.com/2017/07/13/new-server-economies-scale-amd/>.
- [58] Bill Thomas. 2018. AMD Ryzen Threadripper 2nd Generation release date, news and features. <https://www.techradar.com/news/amd-ryzen-threadripper-2nd-generation>.
- [59] Stephen Tu, Wenting Zheng, Eddie Kohler, Barbara Liskov, and Samuel Madden. 2013. Speedy Transactions in Multicore In-memory Databases. In *Proceedings of the 24th ACM Symposium on Operating Systems Principles (SOSP)*. ACM, Farmington, PA, 18–32.
- [60] Qi Wang, Timothy Stamler, and Gabriel Parmer. 2016. Parallel Sections: Scaling System-level Data-structures. In *Proceedings of the 11th European Conference on Computer Systems (EuroSys)*. ACM, London, UK, 33:1–33:15.
- [61] Tianzheng Wang and Hideaki Kimura. 2016. Mostly-optimistic Concurrency Control for Highly Contended Dynamic Workloads on a Thousand Cores. In *Proceedings of the 39th International Conference on Very Large Data Bases (VLDB)*. VLDB Endowment, New Delhi, India, 49–60.
- [62] Wikipedia. 2018. Snapshot isolation. [https://en.wikipedia.org/wiki/Snapshot\\_isolation](https://en.wikipedia.org/wiki/Snapshot_isolation).
- [63] Chris Williams. 2018. Broadcom's Arm server chip lives - as Cavium's two-socket ThunderX2. [https://www.theregister.co.uk/2018/05/08/cavium\\_thunderx2/](https://www.theregister.co.uk/2018/05/08/cavium_thunderx2/).
- [64] Yingjun Wu, Joy Arulraj, Jiexi Lin, Ran Xian, and Andrew Pavlo. 2017. An Empirical Evaluation of In-memory Multi-version Concurrency Control. In *Proceedings of the 39th International Conference on Very Large Data Bases (VLDB)*. VLDB Endowment, TU Munich, Germany, 781–792.
- [65] Xiangyao Yu, George Bezerra, Andrew Pavlo, Srinivas Devadas, and Michael Stonebraker. 2014. Staring into the Abyss: An Evaluation of Concurrency Control with One Thousand Cores. In *Proceedings of the 39th International Conference on Very Large Data Bases (VLDB)*. VLDB Endowment, Hangzhou, China, 209–220.
- [66] Xiangyao Yu, Andrew Pavlo, Daniel Sanchez, and Srinivas Devadas. 2016. TicToc: Time Traveling Optimistic Concurrency Control. In *Proceedings of the 2015 ACM SIGMOD/PODS Conference*. ACM, SAN Francisco, CA, USA, 1629–1642.
- [67] Yang Zhan and Donald E. Porter. 2010. Versioned Programming: A Simple Technique for Implementing Efficient, Lock-Free, and Composable Data Structures. In *Proceedings of the ACM International Systems and Storage Conference*. ACM, California, USA, 11:1–11:12.