

## Benchmark suite Distributions

-Network processor benchmark suite, NpBench, release, 2003 – present,  
Licensed to 30 institutions around world,

Nationality	Institute
U.S.	<ul style="list-style-type: none"> <li>▪ North Carolina State University, US</li> <li>▪ Arizona State University, US</li> <li>▪ Motorola, US</li> <li>▪ ECE, Georgia Tech, US</li> <li>▪ EECS, Stanford University, US</li> <li>▪ Department of Computer Science, University of Massachusetts, Lowell, US</li> <li>▪ EE, University of California, Los Angeles (UCLA), US</li> <li>▪ Department of Computer Science, University of Texas at Austin, US</li> <li>▪ Department of Computer Science, University of California, Los Angeles (UCLA), US</li> </ul>
Canada	<ul style="list-style-type: none"> <li>▪ University of Toronto, Canada*</li> <li>▪ Department of Electrical and Computer Engineering, University of Toronto, Canada</li> </ul>
Switzerland	<ul style="list-style-type: none"> <li>▪ IBM Research Laboratory Zurich, Switzerland</li> </ul>
India	<ul style="list-style-type: none"> <li>▪ Indian Institute of Technology at Delhi, India</li> <li>▪ Amsoft Systems, India</li> </ul>
Greece	<ul style="list-style-type: none"> <li>▪ The University of Patras, Greece</li> </ul>
Denmark	<ul style="list-style-type: none"> <li>▪ Aalborg University, Denmark</li> </ul>
Taiwan	<ul style="list-style-type: none"> <li>▪ Laboratory for Reliable Computing, National Tsing Hua University, Taiwan</li> <li>▪ Department of Computer Science, National Tsing Hua University, Taiwan</li> <li>▪ PL Lab., National Tsing Hua University, Taiwan</li> <li>▪ Computer Science Department, National Chiao Tung University, Taiwan</li> </ul>
China	<ul style="list-style-type: none"> <li>▪ Northeast Normal University, China</li> <li>▪ University of Science and Technology of China, China</li> <li>▪ Institute of Computing Technology, Chinese Academy of Science, China</li> <li>▪ Harbin Institute of technology, China</li> <li>▪ National University of Defence Technology, China</li> <li>▪ Zhejiang University, China</li> </ul>
Spain	<ul style="list-style-type: none"> <li>▪ Department of Computer Architecture, Polytechnic University of Catalonia, Spain</li> </ul>
Argentina	<ul style="list-style-type: none"> <li>▪ UNC (Universidad Nacional de Córdoba) in Córdoba, Argentina</li> </ul>

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[1] Byeong Kil Lee, Lizy Kurian John, NpBench: A Benchmark Suite for Control plane and Data plane Applications of Network Processors, *International Conference on Computer Design (ICCD '03)*, October 2003

# NpBench citations by other research groups

## Article

- [1] Manohar Castelino and Frank Hady, Network Processing Forum Tutorial on NPF's IPsec Forwarding Benchmark,  
<http://www.commsdesign.com/showArticle.jhtml?articleID=49400850>

## Classroom

- [1] Class material, [http://www.cc.gatech.edu/classes/AY2005/cs8803hpc\\_spring/](http://www.cc.gatech.edu/classes/AY2005/cs8803hpc_spring/)

## Papers

- [1] Ramaswamy Ramaswamy, Ning Weng, and Tilman Wolf, Analysis of network processing workloads, in Proc. of IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS), Austin, TX, Mar. 2005.
- [2] Yannick Le Moullec, Nader Ben Amor, Jean-Philippe Diguët, Peter Koch, Follow-up Modelling for Wireless Personal Communication Systems, WPMC 2004, September 12-15, 2004, Abano Terme, Italy
- [3] Zhangxi Tan, Chuang Lin, Hao Yin, Bo Li, Optimization and Benchmark of Cryptographic Algorithms on Network Processors, IEEE Micro, vol. 24, no. 5, pp. , 55-69, September 2004
- [4] Javier Verdu, Jorge García, Mario Nemirovsky and Mateo Valero, The Impact of Traffic Aggregation on the Memory Performance of Networking Applications. In Workshop on Memory Performance, Dealing with Applications, Systems and Architectures (MEDEA), pp. 59-64, September 2004.
- [5] Yannick Le Moullec, Nader Ben Amor, Jean-Philippe Diguët, Peter Koch, Adaptive Wireless Systems Optimization based on Follow-up Modeling, GSPx 2004:Embedded Applications Software & Hardware, September 27-30, 2004, Santa Clara, USA
- [6] Elizabeth Seamans and Mendel Rosenblum, Parallel Decompositions of a Packet-Processing Workload, Department of Computer Science - Stanford University ANCHOR 2004
- [7] Javier Verdú, Jorge García, Mario Nemirovsky, Mateo Valero, Analysis of Traffic Traces for Stateful Applications, DAC Report-2003-53, Universitat Politècnica de Catalunya
- [8] C-H. Hsu and U. Kremer., The Design, Implementation, and Evaluation of a Compiler Algorithm for CPU Energy Reduction , ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI'03), San Diego, CA, June 2003.