SHMUEL (MULI) BEN-YEHUDA

CURRICULUM VITAE

CONTACT INFORMATION

Web: http://www.mulix.org

E-mail: mulix@mulix.org

Telephone: +972-50-2039189

EDUCATION

2015 M.Sc. in Computer Science, *Summa cum Laude*, Technion—Israel Institute of Technology Thesis: *"The nom Profit-Maximizing Operating System"*

2010 B.A. in Computer Science, cum Laude, Open University, Israel

PROFESSIONAL HISTORY

2016-current Co-Founder & CTO \rightarrow Chief Scientist \rightarrow Chief R&D Officer, Lightbits Labs Relentlessly pushing forward the state of the art in software defined cloud storage.

2014–2015 Chief Scientist, Stratoscale

As Stratoscale's Chief Scientist, I provided technical leadership and architectural direction to Stratoscale's R&D organization. Stratoscale built the next generation data center operating system. My main focus areas were machine virtualization, cloud computing, high speed storage and networking, and data science. I also worked closely with Stratoscale's sales and marketing teams to bring Stratoscale's vision to the market.

2013 Owner and Consultant, Hypervisor Technologies and Consulting

I founded Hypervisor Technologies and Consulting Ltd., a boutique technology consultancy. At Hypervisor, I provided expert consulting to selected clients in such areas as machine virtualization, I/O virtualization, operating system and hypervisor research, design and development, and Linux and KVM internals.

2009–2010 Manager, Virtualization and System Architecture—IBM Haifa Research Lab.

I managed a group of ten to fifteen researchers working in the areas of machine virtualization, operating systems, and high-speed interconnects. In addition to making technical contributions to most research projects in the group, I was responsible for all research activities carried out by individual researchers, set technical direction to the group, secured internal (from IBM) and external (e.g., EU) grant funding, and established collaborations with industry and academia.

2003–2012 Researcher—IBM Haifa Research Lab.

As a researcher at IBM Research I conceived, researched, designed, and implemented systems.

I founded the Turtles nested virtualization research project. I lead the project from its inception in 2008, and made key contributions to the design and implementation. Nested virtualization is the ability to run multiple hypervisors simultaneously and efficiently on architectures (such as x86) that support only a single hypervisor in hardware. We achieved this ability by employing *multi-dimensional page tables* for MMU virtualization and *multi-level device assignment* for I/O virtualization. The resulting performance was within 6-8% of single-level (non-nested) virtualization. A paper describing the project won the Jay Lepreau Best Paper award at the prestigious OSDI 2010 conference [19].

I conducted pioneering research into high performance I/O virtualization starting in 2006. I researched, designed, and implemented operating system and hypervisor support for the Calgary, CalIOC2, and VT-d IOMMUs on the x86-64 platform, exploring for the first time the benefits and costs of *direct device assignment* for unmodified virtual machines [2,4,16,26]. This work won an IBM Research accomplishment, and I personally received an Outstanding Technical Achievement Award for it. I also explored other software and hardware methods for efficient I/O virtualization [10,17,21,22,23,26,27].

I made substantial contributions to many research projects: TCP acceleration via flexible hardware/software split [1] and via dedicated CPU cores [18,23], using machine learning methods for monitoring the well-being and performance of virtual machines [7,11,12], combining memory and storage checkpointing of VMs to enable "virtual machine time travel" [6], adding operating system support for programmable devices [8], out-of-band storage intrusion detection [14], firmware for the "IP Only Server" [3], an Ethernet driver for an experimental adapter, and embedded firmware for the DS6000 storage controller.

I gave invited talks and taught courses at the IDF, the Technion, Tel-Aviv University, Ben-Gurion University, Intel, and IBM, including a 16-hour course on machine virtualization and 8-hour courses on operating systems and on the Linux kernel.

2002 Linux kernel Engineer—Qlusters, Inc., Tel Aviv, Israel.

I co-designed and co-implemented the core of Qlusters' Linux-based cluster OS, including its distributed shared memory subsystem.

2000–2001 Programmer and System Analyst—Pointer Software Systems, Israel.

I designed and implemented creative solutions to customers' problems, such as an object serialization framework, an embedded database engine, and a library for GSM modems.

1997–2000 Programmer and Programming Team Leader—IDF, Intelligence Corps.

I worked on parsing, understanding, and representing large amounts of data.

GRANTS AWARDED

IBM PI for "IOLanes: Advancing the Scalability and Performance of I/O Subsystems in Multicore Platforms", Seventh Framework Programme (FP7) (3/2010–3/2013; part of a \in 4,260,426 EU project with Forth, UPM, BSC, Intel, Neurocom). Web: http://www.iolanes.eu.

AWARDS AND HONORS

2024 ACM SIGARCH/SIGPLAN/SIGOPS ASPLOS 2024 Influential Paper Award For the paper "ELI: Bare-Metal Performance for I/O Virtualization"

2012 IBM Research Pat Goldberg Memorial Best Paper Award

For the paper "ELI: Bare-Metal Performance for I/O Virtualization"

2012 Technion CS/EE Collaborative Research Award

Received the Technion CS/EE Collaborative Research Between Graduate Students Award for the paper "ELI: Bare-Metal Performance for I/O Virtualization"

2012 Technion CS/EE Collaborative Research Award

Received the Technion CS/EE Collaborative Research Between Graduate Students Award for the papers "Deconstructing Amazon Deconstructing Amazon EC2 Spot Instance Pricing" and "The Resource-as-a-Service (RaaS) Cloud"

2012 HiPEAC Paper Award

Received a HiPEAC Paper Award for "ELI: Bare-Metal Performance for I/O Virtualization"

2012 Intel Prize

Received a competitive award for excellent graduate students from Intel.

2012 EuroSys Student Travel Prize

Received a EuroSys competitive travel award for a European student to attend ASPLOS '12.

2011 IBM Research Pat Goldberg Memorial Best Paper Award

Received the 2010 Pat Goldberg Memorial Best Paper Award in Computer Science, Electrical Engineering and Math for the paper "The Turtles Project: Design and Implementation of Nested Virtualization".

2010 Jay Lepreau Best Paper Award

Received the Jay Lepreau Best Paper Award at OSDI 2010 for the paper "The Turtles Project: Design and Implementation of Nested Virtualization".

2010 Outstanding Technical Achievement Award (OTAA)

Received an IBM Outstanding Technical Achievement Award for contributions to "Linux and Open Virtualization".

2009 Research Accomplishment

Received an IBM Research Accomplishment for contributions to "Linux and Open Virtualization".

2008 Research Accomplishment

Received an IBM Research Accomplishment for contributions to "Availability Manager for virtual machine availability systems management in IBM Systems Director".

2006–2011 Master Inventor

Appointed Master Inventor in recognition of extraordinary contributions to IBM's intellectual property.

PUBLICATIONS

- 41 I. Lesokhin, H. Eran, S. Raindel, G. Shapiro, S. Grimberg, L. Liss, M. Ben-Yehuda, N. Amit, D. Tsafrir "Page Fault Support for Network Controllers". In The 22nd ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS'17)
- 40 M. Ben-Yehuda, O. Agmon Ben-Yehuda, D. Tsafrir "The nom Profit-Maximizing Operating System". In The 12th ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments (VEE'16)
- 39 A. Gordon, N. Amit, N. Har'El, M. Ben-Yehuda, A. Landau, A. Schuster, D. Tsafrir "Bare-Metal Performance for Virtual Machines with Exitless Interrupts". In Communications of the ACM (CACM)
- 38 M. Ben-Yehuda "The nom Profit-Maximizing Operating System". In Master's Thesis, Technion Computer Science Department (Thesis)
- 37 I. Smolyar, M. Ben-Yehuda, D. Tsafrir "Securing Self-Virtualizing Ethernet Devices". In 24th USENIX Security Symposium (USENIXSEC'15)
- 36 M. Malka, N. Amit, M. Ben-Yehuda, D. Tsafrir "rIOMMU: Efficient IOMMU for I/O Devices that Employ Ring Buffers". In 20th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS'15)
- 35 M. Ben-Yehuda, N. Navarro, Y. Etsion, M. Valero "CODOMs: Protecting Software with Code-centric Memory Domains". In Intl. Symp. on Computer Architecture (ISCA'14)
- 34 O. Agmon Ben-Yehuda, M. Ben-Yehuda, A. Schuster, D. Tsafrir "The Rise of RaaS: The Resource-asa-Service Cloud". In Communications of the ACM, July 2014 (CACM)
- 33 O. Agmon Ben-Yehuda, E. Posener, M. Ben-Yehuda, A. Schuster, A. Mualem "Ginseng: Market-Driven Memory Allocation". In The 10th ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments (VEE '14)
- 32 M. Ben-Yehuda, O. Peleg, O. Agmon Ben-Yehuda, I. Smolyar, D. Tsafrir "The nonkernel: A Kernel Designed for the Cloud". In The 4th Asia-Pacific Workshop on Systems (APSYS '13)
- 31 N. Har'El, A. Gordon, A. Landau, M. Ben-Yehuda, A. Traeger, R. Ladelsky "Efficient and Scalable Paravirtual I/O System". In The 2013 USENIX Annual Technical Conference (USENIX ATC '13)
- 30 O. Agmon Ben-Yehuda, M. Ben-Yehuda, A. Schuster, D. Tsafrir "Deconstructing Amazon EC2 Spot Instance Pricing". In ACM Transactions on Economics and Computation, 1(3), Sept. 2013 (TEAC)
- 29 O. Agmon Ben-Yehuda, M. Ben-Yehuda, A. Schuster, D. Tsafrir "The Resource-as-a-Service (RaaS) Cloud". In 4th USENIX Workshop on Hot Topics in Cloud Computing (HotCloud '12)
- 28 A. Gordon, N. Har'El, A. Landau, M. Ben-Yehuda, A. Traeger "Towards Exitless and Efficient Paravirtual I/O". In 5th Annual International Systems and Storage Conference (SYSTOR '12)
- 27 A. Gordon, N. Amit, N. Har'El, M. Ben-Yehuda, A. Landau, A. Schuster, D. Tsafrir "ELI: Bare-Metal Performance for I/O Virtualization". In 17th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS '12)
 Received the ACM SIGARCH/SIGPLAN/SIGOPS ASPLOS 2024 Influential Paper Award Received the IBM Research 2012 Pat Goldberg Memorial Best Paper Award Received a HiPEAC Paper Award
- 26 M. Ben-Yehuda, E. Borovik, M. Factor, E. Rom, A. Traeger, B.-A. Yassour "Adding Advanced Storage Controller Functionality via Low-Overhead Virtualization". In 10th USENIX Conference on File and Storage Technologies (FAST '12)
- 25 O. Agmon Ben-Yehuda, M. Ben-Yehuda, A. Schuster, D. Tsafrir "Deconstructing Amazon EC2 Spot Instance Pricing". In 3rd IEEE International Conference on Cloud Computing Technology and Science (CloudCom '11)

- 24 M. Hines, A. Gordon, M. Silva, D. Da Silva, K. D. Ryu, M. Ben-Yehuda "Applications Know Best: Performance-Driven Memory Overcommit With Ginkgo". In 3rd IEEE International Conference on Cloud Computing Technology and Science (CloudCom '11)
- 23 N. Amit, M. Ben-Yehuda, D. Tsafrir, A. Schuster "vIOMMU: Efficient IOMMU Emulation". In The 2011 USENIX Annual Technical Conference (USENIX ATC '11)
- 22 A. Landau, M. Ben-Yehuda, A. Gordon "SplitX: Split Guest/Hypervisor Execution on Multi-Core". In The 3rd Workshop on I/O Virtualization (WIOV '11)
- 21 A. Gordon, M. Ben-Yehuda, D. Filimonov, M. Dahan "VAMOS: Virtualization Aware Middleware". In The 3rd Workshop on I/O Virtualization (WIOV '11)
- 20 A. Gordon, M. Hines, D. Da Silva, M. Ben-Yehuda, M. Silva, G. Lizarraga "Ginkgo: Automated, Application-Driven Memory Overcommitment for Cloud Computing". In Runtime Environments/Systems, Layering, and Virtualized Environments (RESoLVE) Workshop (RESoLVE '11)
- 19 M. Ben-Yehuda, M. D. Day, Z. Dubitzky, M. Factor, N. Har'El, A. Gordon, A. Liguori, O. Wasserman, B.-A. Yassour. "The Turtles Project: Design and Implementation of Nested Virtualization". In 9th USENIX Symposium on Operating Systems Design and Implementation (OSDI '10) Received the Jay Lepreau Best Paper award Received the IBM Research 2010 Pat Goldberg Memorial Best Paper Award
- 18 L. Shalev, J. Satran, E. Borovik, M. Ben-Yehuda "IsoStack—Highly Efficient Network Processing on Dedicated Cores". In The 2010 USENIX Annual Technical Conference (USENIX ATC '10)
- 17 N. Amit, M. Ben-Yehuda, B.-A. Yassour "IOMMU: Strategies for Mitigating the IOTLB Bottleneck". In The Sixth Annual Workshop on the Interaction between Operating Systems and Computer Architecture (WIOSCA '10)
- 16 B.-A. Yassour, M. Ben-Yehuda, O. Wasserman "On the DMA Mapping Problem in Direct Device Assignment". In The 3rd Annual Haifa Experimental Systems Conference (SYSTOR '10)
- 15 A. Landau, D. Hadas, M. Ben-Yehuda "Plugging the Hypervisor Abstraction Leaks Caused by Virtual Networking". In The 3rd Annual Haifa Experimental Systems Conference (SYSTOR '10)
- 14 M. Allalouf, M. Ben-Yehuda, J. Satran, I. Segall "Block Storage Listener for Detecting File-Level Intrusions". In The 26th IEEE Symposium on Massive Storage Systems and Technologies: Research Track (MSST '10)
- 13 D. Cohen, F. Petrini, M. D. Day, M. Ben-Yehuda, S. Hunter, U. Cummings "Applying Amdahl's Other Law to the Data Center". In IBM Journal of Research and Development special issue on Hybrid Computing Systems, 53(5), 2009 (IBM JR&D)
- 12 M. Ben-Yehuda, D. Breitgand, M. Factor, E. Kolodner, V. Kravtsov, D. Pelleg "NAP: A Building Block for Remediating Performance Bottlenecks via Black Box Network Analysis". In The 6th IEEE International Conference on Autonomic Computing (ICAC '09)
- 11 N. Parush, D. Pelleg, M. Ben-Yehuda, P. Ta-Shma "Out-of-band detection of boot-sequence termination events". In The 6th IEEE International Conference on Autonomic Computing (ICAC '09)
- 10 B. Rochwerger, D. Breitgand, E. Levy, A. Galis, K. Nagin, I. M. Llorente, R. Montero, Y. Wolfsthal, E. Elmroth, J. Caceres, M. Ben-Yehuda, W. Emmerich, F. Galan "The RESERVOIR Model and Architecture for Open Federated Cloud Computing". In IBM Journal of Research and Development special issue on Internet and Enterprise-Scale Data Centers, 53(4), 2009 (IBM JR&D)
- 9 J. Satran, L. Shalev, M. Ben-Yehuda, Z. Machulsky "Scalable I/O—A Well-Architected Way to Do Scalable, Secure and Virtualized I/O". In The First Workshop on I/O Virtualization (WIOV '08)
- 8 Y. Weinsberg, D. Dolev, T. Anker, M. Ben-Yehuda, P. Wyckoff "Tapping into the Fountain of CPUs— On Operating Systems Support for Programmable Devices". In Thirteenth international conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS '08)

- 7 D. Pelleg, M. Ben-Yehuda, R. Harper, L. Spainhower, T. Adeshiyan "Vigilant—Out-of-band Detection of Failures in Virtual Machines". In ACM SIGOPS Operating Systems Review, 42(1) (OSR)
- 6 P. Ta-Shma, G. Laden, M. Ben-Yehuda, M. Factor "Virtual Machine Time Travel Using Continuous Data Protection and Checkpointing". In ACM SIGOPS Operating Systems Review, 42(1) (OSR)
- 5 M. Ben-Yehuda, E. Van Hensbergen "Open Source as a Foundation for Systems Research". In ACM SIGOPS Operating Systems Review, 42(1) (**OSR**)
- 4 M. Ben-Yehuda, J. Xenidis, M. Ostrowski, K. Rister, A. Bruemmer, L. Van Doorn "The Price of Safety: Evaluating IOMMU Performance". In The 2007 Ottawa Linux Symposium (OLS '07)
- 3 M. Ben-Yehuda, O. Goldshmidt, E. Kolodner, Z. Machulsky, V. Makhervaks, J. Satran, M. Segal, L. Shalev, I. Shimony "IP Only Server". In The 2006 USENIX Systems Practice and Experience Track (USENIX ATC '06)
- 2 M. Ben-Yehuda, J. Mason, O. Krieger, J. Xenidis, L. Van Doorn, A. Mallick, J. Nakajima, E. Wahlig "Utilizing IOMMUs for Virtualization in Linux and Xen". In The 2006 Ottawa Linux Symposium (OLS '06)
- 1 L. Shalev, V. Makhervaks, Z. Machulsky, G. Biran, J. Satran, M. Ben-Yehuda, I. Shimony "Loosely Coupled TCP Acceleration Architecture". In The 14th IEEE Symposium on High-Performance Interconnects (HOTI '06)

TECHNICAL REPORTS

- 3 N. Har'El, A. Gordon, A. Landau, M. Ben-Yehuda, A. Traeger, R. Ladelsky "High Performance I/O Interposition for Virtual Systems". In IBM Research Report H-0319
- 2 B.-A. Yassour, M. Ben-Yehuda, O. Wasserman "Direct Device Assignment for Untrusted Fully-Virtualized Virtual Machines". In IBM Research Report H-0263
- 1 The RESERVOIR Seed Team "RESERVOIR—An ICT Infrastructure for Reliable and Effective Delivery of Services as Utilities". In IBM Research Report H-0262

FREE SOFTWARE

Former contributor to the Linux kernel and the Xen and KVM hypervisors. Former Linux kernel maintainer for the Trident sound driver and the Calgary and CalIOC2 x86 IOMMUs.

ISSUED PATENTS

- 47 US Patent #11,513,729 "Distributed write buffer for storage systems"
- 46 US Patent #11,789,632 "System and method for data placement in multiple tier storage systems"
- 45 US Patent #11,442,658 "System and method for selecting a write unit size for a block storage device"
- 44 US Patent #11,467,730 "Method and system for managing data storage on non-volatile memory media"
- 43 US Patent #11,093,408 "System and method for optimizing write amplification of non-volatile memory"
- 42 US Patent #10,713,162 "System and method for computer data garbage collection acceleration using peer-to-peer DMA"
- 41 US Patent #10,684,964 "System and method for reducing read latency in storage devices"
- 40 US Patent #10,628,301 "System and method for optimizing write amplification of non-volatile memor"
- 39 US Patent #10,956,34 "Storage system having an in-line hardware accelerator"
- 38 US Patent #10,025,607 "Optimizing a file system interface in a virtualized computing environment"
- 37 US Patent #9,043,501 "Input/Output Monitoring Mechanism"

- 36 US Patent #8,949,569 "Enhanced Direct Memory Access"
- 35 US Patent #8,943,260 "Dynamic memory management in a virtualized computing environment"
- 34 US Patent #8,898,665 "System, Method and Computer Program Product for Inviting Other Virtual Machine to Access a Memory Space Allocated to a Virtual Machine"
- 33 US Patent #8,892,802 "Enhancing Interrupt Handling in a Virtual Environment"
- 32 US Patent #8,863,117 "Optimizing a File System Interface in a Virtualized Computing Environment"
- 31 US Patent #8,745,295 "Device, Method And Computer Program Product For Executing A Migrated Execution Context By A Storage Controller"
- 30 US Patent #8,650,406 "Memory Protection and Security Using Credentials"
- 29 US Patent #8,521,919 "Direct Memory Access in a Computing Environment"
- 28 US Patent #8,521,868 "Platform-level Indicators of Application Performance"
- 27 US Patent #8,495,628 "Para-Virtualization in a Nested Virtualization Environment Using Reduced Number of Nested VM Exits"
- 26 US Patent #8,490,090 "Multilevel Support in a Nested Virtualization Environment"
- 25 US Patent #8,458,698 "Improving performance in a nested virtualized environment"
- 24 US Patent #8,453,149 "Efficient Multi-Core Processing of Events"
- 23 US Patent #8,413,159 "Classifying Workload for a Service"
- 22 US Patent #8,397,106 "Detecting No Progress State of an Application"
- 21 US Patent #8,392,916 "Multiple Layers Of Virtualization In A Computing System"
- 20 US Patent #8,392,765 "Condition Based Detection of No Progress State of an Application"
- 19 US Patent #8,381,045 "Condition Based Detection of No Progress State of an Application"
- 18 US Patent #8,379,858 "Generating Key Information For Mutual Access Among Multiple Computers"
- 17 US Patent #8,312,433 "Operating System Aided Code Coverage"
- 16 US Patent #8,290,994 "Obtaining File System View in Block-Level Data Storage Systems"
- 15 US Patent #8,255,642 "Automatic Detection of Stress Conditions"
- 14 US Patent #8,161,287 "Method and System for Memory Protection and Security Using Credentials"
- 13 US Patent #8,156,503 "System, Method and Computer Program Product for Accessing a Memory Space Allocated to a Virtual Machine"
- 12 US Patent #8,151,265 "Apparatus for and Method for Real-Time Optimization of virtual Machine Input/Output Performance"
- 11 US Patent #8,135,898 "Memory Management in a Nested Virtualization Environment"
- 10 US Patent #8,132,185 "Device, System, and Method of Classifying a Workload of a Software Service"
- 9 US Patent #8,095,569 "Customized Context Menu For Files Based On Their Content"
- 8 US Patent #8,055,951 "System, Method And Computer Program Product For Evaluating A Virtual Machine"
- 7 US Patent #8,001,342 "Method For Storing and Restoring Persistent Memory Content and Virtual Machine State Information"

- 6 US Patent #7,970,736 "System, Method and Computer Program Product for Storing Transient State Information"
- 5 US Patent #7,900,003 "System, Method And Computer Program Product For Storing An Information Block"
- 4 US Patent #7,757,280 "Method And System For Memory Protection And Security Using Credentials"
- 3 US Patent #7,636,800 "Method And System For Memory Address Translation And Pinning"
- 2 US Patent #7,603,392 "System, Method And Computer Program Product For Storing Transient State Information"
- 1 US Patent #7,600,093 "Device, Method and Computer Program Product For Multi-Level Address Translation"

PATENT APPLICATIONS

- 4 US Patent Application 2016/0,026,489 "Live Migration of Virtual Machines that Use Externalized Memory Pages"
- 3 US Patent Application 2015/0,312,366 "Unified Caching of Storage Blocks And Memory Pages in a Compute-Node Cluster"
- 2 US Patent Application 2015/0,234,669 "Memory Resource Sharing Among Multiple Compute Nodes"
- 1 US Patent Application 2013/0,013,666 "Monitoring Data Access Requests to Optimize Data Transfer"

PROFESSIONAL SERVICE

Workshop co-chair 2nd Workshop on I/O Virtualization (WIOV '10), co-located with ASPLOS

Workshop co-chair 1st Workshop on I/O Virtualization (WIOV '08), co-located with OSDI

Workshop co-chair 1st Annual Haifa Systems and Storage Conference (SYSTOR '07)

Journal guest editor ACM SIGOPS Operating Systems Review, special issue on Research and Developments in the Linux kernel

Journal guest editor ACM SIGOPS Operating Systems Review, special issue on Best Papers from VEE and Best Papers from WIOV

PC member 9th USENIX Workshop on Hot Topics in Cloud Computing (HotCloud'17)

PC member The 22nd ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS'17)

PC member 7th USENIX Workshop on Hot Topics in Cloud Computing (HotCloud'15)

PC member 2014 USENIX Annual Technical Conference (USENIX ATC '14)

PC member 2014 ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments (VEE '14)

PC member 2013 ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments (VEE '13)

PC member 2012 ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments (VEE '12)

PC member 1^{st} International Workshop on Security and Privacy in Social Networks (SPSN '11), co-located with IEEE Social Com

PC member 3rd Workshop on I/O Virtualization (WIOV '11), co-located with USENIX ATC

PC member 2011 International Conference on High Performance Computing, Networking, Storage and Analysis (SC '11)

PC member 2011 USENIX Annual Technical Conference (USENIX ATC '11)

PC member 2011 ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments (VEE '11)

PC member Workshop on Micro Architectural Support for Virtualization, Data Center Computing, and Clouds (MASVDC '10), co-located with MICRO

PC member 24th International Conference on Supercomputing (ICS '10)

PC member 3rd Annual Haifa Experimental Systems Conference (SYSTOR '10)

PC member 2nd Annual Israeli Experimental Systems Conference (SYSTOR '09)

PC member Workshop on Managed Many-Core Systems (MMCS '08), co-located with HPDC

Information Director ACM SIGOPS (2011–2013)

Publicity chair 2nd Annual Israeli Experimental Systems Conference (SYSTOR '09)

LANGUAGES

Fluent in Hebrew and English.

REFERENCES

Available upon request.