



Evangelos Koukis

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PERSONAL DETAILS

Surname:	Koukis
Name:	Evangelos
Father's Name:	Leonidas
Mother's Name:	Panagiota
Date of Birth:	22 December 1979
Place of Birth:	Cholargos, Attiki, Greece

EDUCATION

- 2002-2009** Ph.D. in Computer Science, Department of Computer Science, School of Electrical and Computer Engineering, National Technical University of Athens. Thesis: "I/O and Scheduling Techniques for the Efficient Utilization of Shared Architectural Resources on Clusters of SMPs". Advisor: Associate Prof. Nectarios Koziris.
- 1997-2002** Undergraduate studies, Diploma in Electrical and Computer Engineering, National Technical University of Athens. Major in Informatics. Courses chosen in the following areas: Computing Systems, Computer Software, Computer Networks and Communication Systems. Overall diploma grade: 8.70/10.
- 1997** High School Degree, Konistres High School, Evia.
Overall Grade: 19.6 / 20.

PUBLICATIONS

1. E. Koukis, A. Nanos and N. Koziris, "GMBlock: Optimizing Data Movement in a Block-level Storage Sharing System over Myrinet," *Cluster Computing*, Vol. 13, No. 4, pp. 349-372, 2010. DOI: 10.1007/s10586-009-0106-y
2. E. Koukis, A. Nanos and N. Koziris, "Synchronized Send Operations for Efficient Streaming Block I/O over Myrinet," *Proceedings of the Workshop on Communication Architecture for Clusters (CAC 2008), held in conjunction with the 22nd International Parallel and Distributed Processing Symposium (IPDPS 2008)*, Miami, FL, USA, 14-18 April, 2008.
3. E. Koukis and N. Koziris, "Efficient Block Device Sharing over Myrinet with Memory Bypass," *Proceedings of the 21th International Parallel and Distributed Processing Symposium (IPDPS 2007)*, p. 29, Long Beach, CA, USA, 26-30 March, 2007.

4. E. Koukis and N. Koziris, "Memory and Network Bandwidth Aware Scheduling of Multiprogrammed Workloads on Clusters of SMPs," *Proceedings of the 12th International Conference on Parallel and Distributed Systems (ICPADS 2006)*, pp. 345-354, Minneapolis, MN, USA, 12-15 July, 2006.
5. E. Koukis and N. Koziris, "Memory Bandwidth Aware Scheduling for SMP Cluster Nodes," *Proceedings of the 13th Euromicro Conference on Parallel, Distributed and Network-based Processing (PDP'05)*, pp. 187-196, Lugano, Switzerland, 6-11 Feb. 2005.
6. M. Athanasaki, E. Koukis, N. Koziris, "Scheduling of Tiled Nested Loops onto a Cluster with a Fixed Number of SMP Nodes," *Proceedings of the 12th Euromicro Conference on Parallel, Distributed and Network based Processing (PDP'04)*, pp.424-433, A Coruna, Spain, February 11-13, 2004.
7. M. Athanasaki, E. Koukis, N. Koziris, "Efficient Scheduling of Tiled Iteration Spaces onto a Fixed Size Parallel Architecture," *Proceedings of the 9th Panhellenic Conference in Informatics*, pp.178-192, Thessaloniki, Greece, November 21-23, 2003.

PROFESSIONAL EXPERIENCE

- 2010-Now** **GRNET:** Technical Coordinator of ~okeanos, GRNET's Infrastructure-as-a-Service project, aiming to provide cloud computing services to the Greek research and academic community. Responsible for coordinating the operation of the various groups within the project: GUI development (Javascript/HTML5), storage infrastructure (object storage on Ceph/RADOS), VM management (REST API development, Google Ganeti backend with KVM hosts), DB design and implementation (based on Django ORM), integration with File Storage service (Pithos+), Identity, and Billing modules.
- 2010** **Hellenic Army:** Installed and maintained Linux and HP-UX servers in a production environment. Ported the main personnel management and report generation application of the Army from HP-UX to virtualized Windows servers on VMWare ESXi. Developed Embedded SQL applications in an Oracle 11g environment. Maintained source code repositories (SVN, CVS) and collaboration environments (Trac, MediaWiki).
- 2009** **PC Systems:** Participated in Grid node deployment at Technical University of Crete. Installed and documented parallel job queue using TORQUE/OpenMPI with kernel-enforced resource limitation. Delivered training course on parallel programming with MPI.
- 2004-2010** **EGEE Project:** "Enabling Grids for E-Science": Member of the SA1 activity (European Grid Operations, Support and Management) as part of the HG-01-GRNET and HG-06-EKT administration team. Accredited trainer for the NA3 activity (User Training and Induction), giving seminar talks on the porting of MPI applications to the EGEE Grid.

- 2004-Now** **CSLab – NTUA:** Member of the laboratory’s administration team, responsible for deploying and maintaining Linux, Solaris and Windows servers and compute clusters on IA-32, IA-64 and SPARC architectures. Developed and administered services which included email (Postfix, dovecot, Squirrelmail), DNS, Web, VPN (OpenVPN, CSLab CA), VoIP (asterisk interconnected with PSTN), Storage (FC and SATA RAID), WinNT domains (Samba DC and CUPS), Virtual Machine containers (Xen, User-mode Linux) and backup facilities (rsnapshot/rsync).
- 2003-2005** **SMART-PIV:** “Development of an Interactive Integrated P.I.V. System Based on Miniaturized Optical Sensor Technology for Implantable Biomedical Devices Design” (IST-2001-37548): Design, implementation and experimental evaluation of a cluster-based platform for acquisition, storage and analysis of images in a PIV system.

TEACHING EXPERIENCE

- 2009-Now** Instructor, reworked complete course material (lecture slides, laboratory exercises), delivered lectures for the “Operating Systems” course in the 7th semester of the school of ECE, Prof. N. Koziris.
- 2010-Now** Instructor, reworked complete course material (lecture slides, laboratory exercises) for the “Operating Systems Laboratory” course in the 8th semester of the school of ECE, Prof. N. Koziris.
- 2002-Now** Teaching assistant for the “Operating Systems Laboratory” course in the 8th semester of the school of ECE, Prof. G. Papakonstantinou
- 2002-2004** Teaching assistant for the “Operating Systems” course in the 7th semester of the school of ECE, Prof. G. Papakonstantinou
- 2001-2002** Teaching assistant for the “Compilers” course in the 8th semester of the school of ECE, Prof. E. Skordalakis

DIPLOMA THESIS

Title: “Implementation of a Generic Linux Kernel-to-Kernel Communication Layer through Userspace, over SCI and FastEthernet Interconnects”. This thesis involved studying the structure of the Linux kernel, especially its scheduler and device driver components and gaining experience in programming in kernelspace. Moreover, it explored SCI-specific communication semantics and multithreaded programming with the POSIX threads standard.

TECHNICAL EXPERIENCE

- **Operating Systems:** Solid experience with the installation, networking, deployment and administration of Linux, Solaris and Windows-based systems.

- **Programming:** excellent knowledge of C, C++, x86 assembly, Unix shell scripting, Python, in system settings (Linux user and kernel space programming), very good knowledge of Perl, Java, (Visual) Basic, Pascal, Fortran 90, working knowledge of Ada, LISP, Prolog.
- **Interconnection Networks:** Fast/Gigabit Ethernet, SCI, Myrinet
- **Network/parallel programming environments:** BSD Sockets, MPI, OpenMP, SISCI, Myrinet GM-1/GM-2 and MX, ØMQ, AMQP (with RabbitMQ)
- **Parallel Filesystems:** Installation and optimization of Ceph/RADOS, OCFS2, GPFS, GFS
- **Programming tools / libraries:** lex / flex, yacc / bison parsers, Unix curses library, POSIX Threads library
- **Database Systems:** Oracle 11g RAC on experimental storage infrastructure, MySQL, PostgreSQL, Microsoft SQL Server
- **Virtual Machine environments:** KVM, Xen, User-mode Linux, VMWare ESXi. Experience with Google Ganeti for virtual server management.

SCIENTIFIC ACTIVITIES

1. Institute of Electrical and Electronics Engineers (IEEE) Member, IEEE Computer Society Member
2. Member of the Technical Chamber of Greece (TEE)

FOREIGN LANGUAGES

- **English:** At C2 level, Certificate of Proficiency in English, University of Cambridge, Grade: A
- **German:** At C1 level, Zentrale Mittelstufenprüfung, Goethe – Institut Overall Grade: Sehr gut

REFERENCES

- Nectarios Koziris, Associate Professor, NTUA
- Panagiotis Tsanakas, Professor, NTUA
- George Papakonstantinou, Professor Emeritus, NTUA