

Eugeni Dodonov

CONTACT INFORMATION	Eugeni Dodonov <i>E-mail:</i> eugeni@dodonov.net <i>WWW:</i> http://eugeni.dodonov.net <i>Phone:</i> +55 (16) 9712 6471 <i>LinkedIn:</i> linkedin.com/in/eugenidodonov <i>Citizenship:</i> Russian/Brazilian <i>Location:</i> Currently living in Curitiba/PR, Brazil.
EDUCATION	PhD. in Computer Science 2005 – 2009 University of São Paulo (USP) – ICMC, São Carlos, SP, Brazil <i>Thesis Topic:</i> <i>Providing Autonomy to Distributed Environments by Predicting the Dynamics of Process Behavior</i> <i>Area of Research:</i> distributed systems, autonomic computing, grid computing, artificial intelligence, time series forecasting. The research was awarded the <i>Best Thesis Award</i> at WSCAD-CTD conference at 2010.
	Master in Computer Science 2002 – 2004 Federal University of São Carlos (UFSCar) – São Carlos, SP, Brazil <i>Dissertation Title:</i> <i>An Integrated Caching and Prefetching Mechanism for High-Performance Distributed File Systems</i> <i>Area of Research:</i> distributed systems, file systems, high performance computing
	Bachelor in Computer Science 1998 – 2001 Federal University of São Carlos (UFSCar) – São Carlos, SP, Brazil <i>Graduation Project:</i> <i>Generic Userspace File System: proposal of a virtual file system for Linux kernel</i>
PROFESSIONAL EXPERIENCE	Intel corporation , São Paulo, Brazil Sr. Graphics Software Engineer 08/2011 – <ul style="list-style-type: none">• Intel Linux Graphics drivers stack release management.• Responsible for initial Intel Haswell GPU enabling.• Core development for Graphics component, working on Kernel, xf86-video-intel, mesa and libdrm components.
	Mandriva Conectiva , Brazil/France Development Manager 04/2010 – 07/2011 <ul style="list-style-type: none">• Responsible for Mandriva Linux 2010.2 and 2011 (up to RC2) distributions development.• Responsible for all development activities and tasks in Brazil.• Responsible for Mandriva Classmate version, chosen by the ProUCA project, expected to be deployed on 1.5M classmates in Brazil.
	Software Engineer 11/2008 – <ul style="list-style-type: none">• Development and maintenance of security and network applications, installer, distribution engineering, images generation and deployment.• Maintenance of over 500 core distribution packages, including networking, filesystem, X.org, basesystem and security stacks.• <i>Secteam</i>: responsible on providing security and bugfix updates for Mandriva products, being part of Mandriva Security team. Vendor-sec participation.• <i>R&D</i>: working on semantic web, cloud storage infrastructure and security, zeroconf-based network solutions and server-focused virtualization projects.• <i>OEM</i>: development of custom hardware and software solutions. Development of Theft and Mesh solutions for Classmate project.• <i>Open-source development</i>: writing custom patches and features for kde, x11-server, gnome, mozilla, kernel, dkms drivers, network and mandriva tools.
	Microsoft Corporation , Redmond, U.S.A. Software Design Engineer , <i>Core File Systems</i> group 02/2007 – 05/2007 <ul style="list-style-type: none">• Proposal and implementation of a new adaptive directory index pre-allocation mechanism for <i>NTFS</i> file system responsible for reducing data fragmentation in large directories. Accepted for inclusion in Windows Vista onwards.

- Working of *NTFS* and *BitVault* performance, proposed an optimized data allocation mechanism for *BitVault* which decreased data allocation time complexity from $O(N^2)$ to $O(N)$.

MSTECH, Bauru, Brazil

Manager of Multi-Platform Solutions Development 05/2007 – 05/2008

- Architecture and development of *MS-BXP* multi-platform remote boot and software streaming solution. Projected the initial solution architecture, multi-platform remote boot protocol, write-cache authentication mechanisms and virtualization solution for remote desktops.
- Development of an multi-platform network management and monitoring solution for large-scale distributed environment over unstable network connections. Implementation of *SNMP* and *WMI* monitoring, web-based management server, secure authentication support for users and sites, and a *push*-based mechanism for update deliveries.
- Architecture and development of *UniClient*, a *SmartClient* application for embedded and distributed systems. Development of a specialized Linux distribution for flash-based, network, live-cd and live-usb environment.

Research and Development 08/2003 – 02/2007

- Principal architect and developer of *UniRecovery*, a disk imaging and recovery application. Projected Live-CD, Live-USB, recovery partition and network-based versions of the product. Implemented an *NTFS* partition access method with over 80% performance gain over competing solutions.
- Principal architect and developer of *BlueLab Linux*, a class control application. Implementation of licensing mechanisms, low-bandwidth screen sharing, system-level access restrictions, persistent user and machine authentication. Development of custom patches for *samba*, *mozilla* and *apache* projects to support required functionalities in the application.
- Principal architect and developer of remote boot and software streaming solutions based on storage virtualization. Implementation of a Linux version of *Ardence* remote boot and software streaming protocol, remote swapping capabilities, server and client-side write-caching, high availability multi-server failover support and GUI configuration applications. Proposal and development of a custom network protocol which resulted in over 400% improvements over competing solutions.
- Development of a specialized Linux benchmark suite for Intel Brazil.
- Lead architect and developer of the *UniLinux* Linux distribution aimed at the educational market.
- Architect and developer of a scalable decentralized and distributed storage solution for large-scale datacenters. Proposed approaches for incremental file transfers, selective data backup and distributed authentication.
- Content adaptation for Intel Teach To Future (*TTF*) program. Development of a self-installable solution for the program, fully compatible with *RedHat*, *Debian*, *Mandriva* and *SuSE* distributions.
- Project and implementation of a internet-based licensing system for software activation and theft control.

ACADEMIC
EXPERIENCE

Teaching:

- **2009 – 2012:** Teacher for *LATO-SENSU in software development for WEB* and *LATO-SENSU in computer networks*, Computer Science Department, UFSCar. Advising 25 course conclusion researches to date, 5 of them awarded as outstanding works (2 in 2011, 3 in 2010).
- **2003 – 2004:** Teacher in the *LATO-SENSU in software development for WEB*, with lectures about *Voice over IP*, Computer Science Department, UFSCar.
- **2003:** Teacher in the *MBA in Technology and Business applied to the Internet*, set of lectures about *WEB* environment configuration and administration, Computer Science Department, UFSCar.

Other:

- Ad-Hoc reviewer for *Journal of Ambient Intelligence and Humanized Computing*, *Future Generation Computer Systems* and *International Journal of Parallel, Emergent and Distributed Systems* journals.
- Technical program committee and reviewer: ICIW 2007, 2008, 2009, 2010, FCST 2010, APSCC 2008, CLEI 2009.
- Number of talks and presentations at academic events for *UFSCar*, *USP* and *UNIP* universities.

PUBLICATIONS: I have **4** publications in International Journals, **1** book chapter and **12** publications in International Conferences. The ones I consider most relevant are ¹:

1. DODONOV, E.; MELLO, R. F. *A Novel Approach for Distributed Application Scheduling Based on Prediction of Communication Events* Future Generation Computing Systems, v. 26(5), 2010.
2. MELLO, R. F.; DODONOV, E.; BERTAGNA, R.; SENGHER, L. J. *Extracting and predicting the communication behaviour of parallel applications* In: International Journal of Parallel, Emergent and Distributed Systems, v. 24(3), 2009.
3. DODONOV, E.; YANG, L. T.; MELLO, R. F. *On Application Behavior Extraction and Prediction to Support and Improve Process Scheduling Decisions*. Book chapter in Handbook of Research on Scalable Computing Technologies. 1 ed., 2009.
4. ANDRADE FILHO, J. A.; MELLO, R. F.; DODONOV, E.; SENGHER, L. J.; YANG, L. T.; LI, K.-C. *Toward an Efficient Middleware for Multithreaded Applications in Computational Grid*. In: IEEE 11th International Conference on Computational Science and Engineering, 2008, São Paulo, IEEE. (*outstanding paper award*)
5. MELLO, R. F.; ANDRADE FILHO, J. A.; DODONOV, E.; ISHII, R. P.; YANG, L. T. *Optimizing distributed data access in Grid environments by using artificial intelligence techniques*. In: The Fifth International Symposium on Parallel and Distributed Processing and Applications, 2007, Niagara Falls.
6. DODONOV, E.; MELLO, R. F.; YANG, L. T. *Adaptive Technique for Automatic Communication Access Pattern Discovery Applied to Data Prefetching in Distributed Applications Using Neural Networks and Stochastic Models*. In: 4th International Symposium Parallel and Distributed Processing and Applications, 2006, Sorrento.
7. DODONOV, E.; QUAINI, J.; GUARDIA, H. *GridBox: Securing Hosts from Malicious and Greedy Applications*, Middleware for Grid Computing 2004, Toronto, Canada.

OTHER ACTIVITIES **Open-Source projects:**

- AND PROJECT PARTICIPATION
- 2011** – *OpenClass*, an open-source class control solution for educational environments.
 - 2011** – *Zilla*, an open-source bugzilla desktop client with smart search.
 - 2009** – **2011** – *Net_Monitor*, a graphical network monitor.
 - 2009** – **2011** – *Tomoyo-Mdv*, a graphical configuration utility for Tomoyo Linux.
 - 2008** – **2011** – *Mandriva Linux* distribution development (Ohloh stats).
 - 2008** – **2009** – *SWIM* (Semantic Web enabled Issue Manager), development of semantic web client/server architecture to unify different bugzilla databases.
 - 2006** – **2007** – *SNMPMon*, distributed system monitor and management system for *Linux* and *Windows* environments.
 - 2006** – **2008** – *ComMonitor*, a framework for transparent online application behavior extraction, classification and prediction for MPI and socket-based network applications.
 - 2004** – **2006** – *GridBox*, a light-weight security and authentication framework.
 - 2004** – **2005** – *StatMonitor*, application execution monitoring tool for UNIX environments. Used by Intel to profile OpenOffice.org application suite.
 - 2004** – *SSSR* (Simple Sound Recorder), a Linux-based sound recorder.
 - 2000** – *LSSL* (acronym stands for *LSSL is Small Server Linux*) Linux distribution, aimed at unattended server installation and configuration.
 - 2000** – *McGhost*, application for unattended machine cloning over network using multicasting.
 - 1998** – **2000** – *LibPCSpeaker*, a library for PC speaker programming on Linux.

Freelance development:

- 2007** – **2009** – architecture, design, web development and performance optimizations for *MTDF - Meu Time de Futebol* project.

¹Full list is available at <http://eugeni.dodonov.net/#publications>

2008 – TrafDump – project and development of a cross-platform wireless environment benchmark (*developed for Intel Brazil*).

Research projects:

2005 — 2009 – MidHPC (*Middleware for High-Performance Computing*) project. Development of distributed shared memory and process behavior extraction and prediction mechanisms.

2004 – SJVM (*Single Java Virtual Machine*), a high-performance JAVA virtual machine projected to improve java applications startup and execution performance.

2003 – 2005 – ProGrid – A Proxy Grid Architecture. Development of a proxy-based grid network architecture.

2003 – 2004 – P2FS (*Peer-to-peer File System*). Proposal and development of a peer-to-peer dynamic file system for heterogeneous grid environment.

2001 – 2005 – NPFS (*Network Parallel File System*). Research and development of a Parallel network file system with integrated caching and prefetching features.

2003 – Microsoft Academic Alliance access portal development for Computer Science Department, UFSCar.

2002 – RAGNAR Cluster Suite, a dynamic heterogeneous distributed clustering solution. This application won the 2st place in the 2nd Applied Computing exposition, realized at Computer Science Department, UFSCar, 2002.

2001 – 2002 – Remoted application. An architecture for remote device control using computing interface (IRDA, sockets, WEB browsers, cellular-based control (WAP and SMS)). This application won the 1st place in the 1st Applied Computing exposition, realized at Computer Science Department, UFSCar, 2001.

2001 – 2002 – Speeder application. A modem-based network network connection optimizer. Won second place on 2nd on 1st Applied Computing exposition, realized at UFSCar, 2002.

TECHNICAL SKILLS **Programming:** 12 years of experience with C, python, Unix scripting (sh, bash and csh); knowledge of Java, Perl, C++, Ruby and RoR and Assembly languages.

Open-Source application customization: custom patch creation for GNOME, KDE, Apache 2, SAMBA, Vim, Mozilla, NetworkManager, Bacula, Util-Linux-Ng, Linux Kernel, OpenSSL, SuperMount and NBD applications, among others;

WEB programming: SSI (apache), CGI, PHP (plain, smarty, wordpress), custom wordpress theme and plugin creation experience, perl, python (web.py, django, and custom web-server development), java (jsp, servlets, struts), Javascript and AJAX, client and server-side XML processing;

Databases: MySQL 3, 4, 5, PostgreSQL 6, 7, SQLite 2, 3;

GUI programming: QT 1, 2, 3, GTK 1, 2, PyGTK, WX Widgets, Glade, TCL/TK, FLTK 1.x, SDL, Swing;

Network programming: sockets, winsockets, multicast programming, MPI, Java RMI, Unix RPC, XML-RPC, web services, CORBA. Experience with custom DSM mechanism implementation and network file systems programming;

System administration: 15 years of system and network administration for UNIX (apache, qmail, postfix, bind, iptables, SAMBA, NIS, OpenLDAP, VPN) in small (up to 50 users) and large (up to 2000 users) environments;

Device drivers programming: Linux 2.2, 2.4 and 2.6 kernel programming, basic FreeBSD kernel programming, Windows NT+ driver development;

UNIX experience: Linux experience since 1997, FreeBSD experience since 1999, OpenBSD experience since 2000, basic Solaris, AIX and HP-UX knowledge;

Windows programming experience: win32 and NT api programming, windows kernel debugging (kd and windbg), MingW32, assembler GUI programming (SPASM), Visual Studio 6, Borland C++ Builder 3, 5;

Linux package maintainance: advanced knowledge of RPM packaging. Custom package creation for Mandriva, ArchLinux, Slackware, Debian/Ubuntu, RedHat, SuSE and Gentoo.

Other technologies: OpenGL, R, matlab, mathematica, pylab, numpy, GiNaC, OpenSSL, SNMP, DirectFB, L^AT_EX.

LANGUAGES Russian (native language), English (fluent), Portuguese (fluent), Spanish (reading and listening), French (basic reading).

HOBBIES Besides professional activities, I like spending free time on:

- Photography,
- Blogging,
- Music (20 years of Clarinet playing, 15 years of Trumpet and brass instruments),
- Martial Arts (green belt in Tae Kwon Do, Muay Thai practicing since 2003),