

Education

2003–2006	Ph.D. in Computer Science at IRISA/INRIA , Rennes, France. Advisors: Luc Bougé and Gabriel Antoniu. Expected graduation: October 2006.
2003	M.Sc. in Computer Science at IRISA/INRIA , Rennes, France. Ordering: 7/57. With honors.
2003	Bachelor of Engineering degree (B.Sc) at National Institute of Applied Sciences (INSA) , Rennes, France. Specialized in Computer Science.
1998–2003	Engineering school INSA with a 3 years specialization in Computer Science (CS), Rennes, France.

Research interests

Main interest	Large-scale data management, middleware for grid computing, Peer-to-Peer (P2P), Distributed Shared Memory (DSM).
Ph.D. thesis	<i>JuxMem: a transparent grid data-sharing service based on a P2P approach.</i> My main research interest is on convergence of grid and peer-to-peer systems, and is illustrated through the JuxMem platform (http://juxmem.gforge.inria.fr/ , which stands for Juxtaposed Memory). JuxMem is a data sharing service for grid computing and is designed as a compromise between DSM systems (for transparency and consistency guarantees) and P2P systems (for scalability and high dynamicity). JuxMem offers the illusion of an unique memory storage area across several clusters, users can store/access data following a standard API for process memory management. Moreover, JuxMem provides consistency guarantees for data through various consistency models and protocols as well as fault tolerance. JuxMem relies on the JXTA P2P framework for its discovery and communication mechanisms. Experimental evaluations and validations on the French Grid'5000 testbed via applications based on the DIET (GridRPC system) and OpenCCM (component model) middlewares have been performed. Thesis done in the framework of the French GDS project (http://www.irisa.fr/GDS/) and started during my M.Sc in 2003.
Other interests	Large-scale deployment on grid infrastructures, performance evaluation of peer-to-peer middlewares on high performance networks, component models.

Collaborations

GRAAL	Collaboration with the DIET team leded by Eddy Caron (LIP, ENS Lyon). Goal: understanding the requirements of applications based on the DIET GridRPC middleware for data management. Validation of JuxMem through the DIET GRID-TLSE sparse linear algebra application from the IRIT laboratory (Toulouse). Several stays of a couple of days at LIP since December 2003.
Sun	Collaboration with the Sun JXTA team leded by Bernard Traversat (Santa Clara, USA). Goal: performance evaluations and optimizations of JXTA on grid infrastructures. 3 years contract started in 2006.
ASSIST	Collaboration with Marco Aldinucci from the ASSIST group (University of Pisa, Italy). Goal: integration of the Ad-HOC cluster storage environment with the JuxMem grid storage platform. Work done in the framework of the CoreGRID Network of Excellence and started in 2005.
AIST	Collaboration with Kazuyuki Shudo from National Institute of Advanced Industrial Science and Technology (AIST, Japan). Goal: validation of JuxMem through the P3 JXTA-based master-worker environment for global computing (http://p-three.sourceforge.net/). A bilateral Sakura project has been initiated in 2006, based on this work.
National projects	GDS, GdX and Grid'5000. The GDS project gathers 3 research teams: PARIS (IRISA), GRAAL (LIP) and REGAL (LIP6). The main goal of this project is to specify, design, implement and evaluate a data sharing service for mutable data and integrate it into the DIET GridRPC environment developed by GRAAL. Experimental evaluations are performed through testbeds available in the framework of the GdX and Grid'5000.

Scientific visits abroad

UNH	University of New Hampshire, 10 days, October-November 2003. Presentation of M.Sc thesis results.
Sun	Sun JXTA team, 3 months, summer 2005. Implementation of performance optimizations and features in the C binding of JXTA for JuxMem. Performance evaluations of communication layers over high-performance networks available on grid infrastructures (Grid'5000 testbed).

Teaching activities

2005-2006	National Institute of Applied Sciences (INSA) <ul style="list-style-type: none">• 3rd year of CS department: <i>practical sessions on JXTA (Java)</i> (4h)
2004-2005	National Institute of Applied Sciences (INSA) <ul style="list-style-type: none">• 1st year of CS department: <i>practical sessions on data structure (Java)</i> (36h)• 3rd year of CS department: <i>practical sessions on JXTA (Java)</i> (4h) University of Rennes 1 (IFSIC) <ul style="list-style-type: none">• Master 2 CCI: <i>lectures and practical sessions on networks in linux environment</i> (12h)
2003-2004	National Institute of Applied Sciences (INSA) <ul style="list-style-type: none">• 1st year of CS department: <i>practical sessions on data structure (Java)</i> (36h)• 3rd year of CS department: <i>practical sessions on JXTA (Java)</i> (4h) University of Rennes 1 (IFSIC) <ul style="list-style-type: none">• Master 2 CCI: <i>practical sessions on synchronization (Java)</i> (8h)
2002-2003	National Institute of Applied Sciences (INSA) <ul style="list-style-type: none">• 1st year of CS department: <i>practical sessions on data structure (Java)</i> (26h)• 1st year of CS department: <i>practical sessions on functional language (OCaml)</i> (8h)

Student advising at IRISA/INRIA, Rennes

David A. Noblet	University of New Hampshire, 3 months, summer 2004. Subject: performance evaluation of JXTA communication layers on grid infrastructures. Two papers published at the GP2PC'2004 workshop and at the HPCC'2005 conference, respectively.
Chester Tse	MIT, 2 months, summer 2004. Subject: implementation of a visualization tool for JuxMem.
Landry Breuil	ISIMA (French engineering school), 7 months, 2005. Subject: implementation of data port concepts using the Corba Component Model (CCM) and JuxMem. One paper submitted to the CCGrid'2006 conference.
Arvind Saraf	MIT, 2 months, 2005. Subject: enhancements to the P3 master-worker environment allowing P3-based applications to store data (tasks) in JuxMem.

Languages

French	Native.
English	Fluent. Lived in the UK for 5 years, worked in California for 3 months.

I spent several years abroad: Germany (4 years), Holland (6 years), UK (5 years).

Additional research activities

HiPC'2004	With Sébastien Monnet, in charge of the submission site of HiPC'2004. 250 submitted papers with 75 reviewers (http://www.hipc.org/).
DRUIDE'2004	Help in the organization of the DRUIDE'2004 school (http://druide2004.irisa.fr/). 80 people attended this school. March 2004.
IPDPS'2003	Volunteer student at IPDPS'2003. 500 people attended the conference. April 2003.
GRID2+ARP	With Gabriel Antoniu, in charge of practical works on JXTA of a training day for French researchers. May 2003.
Reviewer	ICS'2004 (1 paper), NPC'2004 (1 paper), EGC'2005 (1 paper), CCGrid'2005 (3 papers), ICDCS'2005 (3 papers), Euro-Par'2005 (1 paper), NPC'2005 (3 papers), MajecSTIC (3 papers), ICDCS'2006 (1 paper), Vecpar'2006 (1 paper), .ICWS'2006 (1 paper), CFIP'2006 (1 paper)
Webmaster	GDS project: http://www.irisa.fr/GDS/ JuxMem project: http://juxmem.gforge.inria.fr/ DRUIDE'2004 school: http://druide2004.irisa.fr/

Professional experiences

Summer 2002	<i>Engineering internship at CRU</i> (http://www.cru.fr/). Subject: development and validation of a SOAP module and a survey module for the Sympa mailing-list tool. Widely used by more than 3000 servers across the world.
Summer 2001	<i>Engineering internship at EDIXIA</i> (http://www.edixia.com/). Subject: help in the development of libraries for image processing.

List of publications

Book chapters

- [ABC⁺05] Gabriel Antoniu, Marin Bertier, Eddy Caron, Frédéric Desprez, Luc Bougé, Mathieu Jan, Sébastien Monnet, and Pierre Sens. GDS: An architecture proposal for a grid data-sharing service. In V. Getov, D. Laforenza, and A. Reinefeld, editors, *Future Generation Grids*, CoreGRID series, pages 133–152. Springer, November 2005.

Journals

- [ABJ05a] Gabriel Antoniu, Luc Bougé, and Mathieu Jan. JuxMem: An adaptive supportive platform for data sharing on the grid. *Scalable Computing: Practice and Experience*, 6(3):45–55, November 2005.

International conferences

- [ABJM04] Gabriel Antoniu, Luc Bougé, Mathieu Jan, and Sébastien Monnet. Large-scale deployment in P2P experiments using the JXTA distributed framework. In *Euro-Par 2004: Parallel Processing*, number 3149 in Lect. Notes in Comp. Science, pages 1038–1047, Pisa, Italy, August 2004. Springer-Verlag.
- [AJN05] Gabriel Antoniu, Mathieu Jan, and David A. Noblet. Enabling the P2P JXTA platform for high-performance networking grid infrastructures. In *Proc. of the first Intl. Conf. on High Performance Computing and Communications (HPCC '05)*, number 3726 in Lect. Notes in Comp. Science, pages 429–439, Sorrento, Italy, September 2005. Springer-Verlag.
- [ABJ⁺06] Gabriel Antoniu, Hinde Lilia Bouziane, Mathieu Jan, Christian Pérez, and Thierry Priol. Combining data sharing with the master-worker paradigm in the common component architecture. In *Proc. Joint Workshop on HPC Grid programming Environments and COmponents and Component and Framework Technology in High-Performance and Scientific Computing (HPC-GECO/CompFrame 2006)*, pages 11–18, Paris, France, June 2006. Held in conjunction with HDPC-15.

- [ABB⁺06] Gabriel Antoniu, Hinde Lilia Bouziane, Landry Breuil, Mathieu Jan, and Christian Pérez. Enabling transparent data sharing in component models. In *6th IEEE International Symposium on Cluster Computing and the Grid (CCGRID)*, pages 430–433, Singapore, May 2006.
- [AHJN05] Gabriel Antoniu, Phil Hatcher, Mathieu Jan, and David A. Noblet. Performance evaluation of JXTA communication layers. In *Proc. Workshop on Global and Peer-to-Peer Computing (GP2PC 2005)*, pages 251–258, Cardiff, UK, May 2005. Held in conjunction with the 5th IEEE/ACM Int. Symp. on Cluster Computing and the Grid (CCGRID 2005), IEEE TFCC.
- [ABJ03a] Gabriel Antoniu, Luc Bougé, and Mathieu Jan. JuxMem: An adaptive supportive platform for data sharing on the grid. In *Proc. ACM Workshop on Adaptive Grid Middleware (AGridM 2003)*, pages 49–59, New Orleans, Louisiana, September 2003. Held in conjunction with PACT 2003.
- [ABJ03c] Gabriel Antoniu, Luc Bougé, and Mathieu Jan. Peer-to-peer distributed shared memory? In *Proc. IEEE/ACM 12th Intl. Conf. on Parallel Architectures and Compilation Techniques (PACT 2003), Work in Progress Session*, pages 1–6, New Orleans, Louisiana, September 2003.

National conferences

- [ABJ03b] Gabriel Antoniu, Luc Bougé, and Mathieu Jan. La plate-forme JuxMem : support pour un service de partage de données sur la grille. In *Actes des Rencontres francophones du parallélisme (RenPar 15)*, pages 145–152, La Colle-sur-Loup, October 2003.

For further informations (and up to date) on my list of publications, see the following URL:
http://www.irisa.fr/paris/bibadmin/show.php?author=Mathieu_Jan

Software

JuxMem	Publicly available on the INRIA forge at: http://juxmem.gforge.inria.fr/ under the GNU Lesser Public License (LGPL).
JDF	Owner of the JDF project, a deployment tool for JXTA-based applications. Available at: http://jdf.jxta.org/ .
JXTA	Several contributions to the J2SE and C bindings of the JXTA platform.

References

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