

Alain J. Roy

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EDUCATION

- Ph.D. University of Chicago, Computer Science. August, 2001.
Dissertation: *End-to-End Quality of Service for High-End Applications*.
Advisor: Ian Foster
- M.S. University of Chicago, Computer Science, March 1997
- B.S. University of Chicago, Mathematics, June 1994

RESEARCH EXPERIENCE

2001-Present, Associate Researcher, Condor Project, Department of Computer Science, University of Wisconsin-Madison.

Designed and implemented a variety of software for grid/distributed computing and software packaging. Collaborated with scientists, software developers and students from multiple institutions to design and build systems. Examples include:

- Co-PI on two NSF-funded grants:
 - NMI Deployment: nanoHUB
 - Rapid-Response Adaptive Computing Environment for LHC Physics Analysis
- Managed and developed the Virtual Data Toolkit, a multi-institution collaborative effort to distribute, install, and configure complex grid software. <http://www.griphyn.org/vdt>. This included hiring and managing a team of developers.
- Developed code and provided management for the Condor batch system and Condor-G grid batch system
- Converted graduate-student research C++ library “ClassAds” into a production-ready library
- Guided the design of NeST, a network storage appliance
- Aided in the development of Hawkeye, a cluster monitoring tool

1994-2001, Graduate Student, University of Chicago

Developed and implemented advanced architecture for providing Quality of Service, including mechanisms to implement Quality of Service. Research in artificial intelligence. Published a variety of papers.

TEACHING EXPERIENCE

2001 Instructor, Department of Computer Science, University of Chicago

Taught “Computer Networking” in Masters Program. Responsible for development of all lectures, homework, and exams.

1999 Teaching Assistant, Department of Computer Science, Northwestern University

Assisted with “Operating Systems”. Gave some lectures, developed and graded all homework. Assisted with development and grading of exams.

1999 Teaching Assistant, Department of Computer Science, University of Chicago
Assisted with “Networking” for the Professional Masters Program in Computer Science. Taught tutorials, developed and graded all homework. Assisted with development and grading of exams.

1997-1998 Teaching Assistant, Department of Computer Science, University of Chicago
Assisted with “Introduction to Programming”. Tutored students one-on-one. Assisted in development of homework, graded all homework.

RELATED WORK EXPERIENCE

1999 Programmer, Studio Aslag
Developed innovative program to create doctors’ on-call schedules.

1996-1997 Programmer, Paranoid Productions
Assisted development of commercial video game, Damage Inc.

1996 Consultant to Bungie Software
Developed graphic utilities for development of a video game, *Myth*.

1994 Programmer, Bungie Software.
Assisted in the development of a video game *Marathon*, especially the portions related to networking and user interface.

JOURNAL PUBLICATIONS

End-to-End Quality of Service for High-end Applications. I. Foster, M. Fidler, A. Roy, V. Sander, L. Winkler. *Computer Communications*, 27(14):1375-1388, 2004.

A Differentiated Services Implementation for High-Performance TCP Flows. V. Sander, I. Foster, A. Roy, L. Winkler. *The International Journal of Computer and Telecommunications Networking*, 34, 915-929, 2000

BOOK CHAPTERS

Condor and Preemptive Resume Scheduling. A. Roy and M. Livny. Published in *Grid Resource Management: State of the Art and Future Trends*, pages 135-144, Fall 2003. Edited by Jarek Nabrzyski, Jennifer M. Schopf and Jan Weglarz, published by Kluwer Academic Publishers.

GARA: A Uniform Quality of Service Architecture. A. Roy and V. Sander. Published in *Grid Resource Management: State of the Art and Future Trends*, pages 377-394, Fall 2003. Edited by Jarek Nabrzyski, Jennifer M. Schopf and Jan Weglarz, published by Kluwer Academic Publishers.

CONFERENCE PAPERS

Management of Grid Jobs and Data within SAMGrid. A. Baranovski, G. Garzoglio, A. Roy, T. Tannenbaum, and I. Terekhov. *Cluster 2004*, September, 2004.

MPICH-GQ: Quality of Service for Message Passing Programs. A. Roy, I. Foster, W. Gropp, N. Karonis, V. Sander, B. Toonen. Supercomputing 2000, November, 2000. (Nominated for Best Paper)

A Quality of Service Architecture that Combines Resource Reservation and Application Adaptation. I. Foster, A. Roy, V. Sander, Proceedings of the 8th International Workshop on Quality of Service, June 2000.

A Distributed Resource Management Architecture that Supports Advance Reservations and Co-Allocation. I. Foster, C. Kesselman, C. Lee, R. Lindell, K. Nahrstedt, A. Roy. Proceedings of the 8th International Workshop on Quality of Service, June 1999.

The Quality of Service Component for the Globus Metacomputing System. C. Lee, C. Kesselman, J. Stepanek, R. Lindell, S. Hwang, B. Scott Michel, J. Bannister, I. Foster, A. Roy. Proceedings of the 8th International Workshop on Quality of Service, June 1998.

REFERENCES

Available on request