

Chokchai "Box" Leangsuksun
Associate Professor, Computer Science

Education

B Eng Agricultural & Civil Engineering	KhonKean University	1983
MS Computer Science	Kent State University	1989
PhD Computer Science	Kent State University	1995

Honors/Awards

2003 Outstanding Teaching Award, COES, Louisiana Tech University

Registrations/Certifications/Licenses

Professional Engineer (Civil), Thailand, 1983, (inactive)

Experience

1983-1985	Design Engineer, UA Company, Thailand,
1995-2002	Member of Technical Staff, Lucent Technologies, Columbus, Ohio
2002-present	Associate Professor, Computer Science, Louisiana Tech University.

Scientific/Professional Societies

IEEE Computer Society

Research Grants/Contracts

- Department of Energy, "MOLAR: MOdular Linux and Adaptive Runtime support for HEC OS/R research", \$2,100,000 (\$300,000 – as partner institute PI), February 2005-2008.
- DOD/Oak Ridge National Lab Partnership Grant, Louisiana Tech, "Experimental Phase: Open Work Load Characterization for High End Computing", \$25,000, September 2005-August 2006.
- Advanced Technology Team/CEnIT Grant, Louisiana Tech, "Feasibility studies on unified communication services on IP wireless handheld devices in convergence networks", \$20000, 2002.
- Department of Energy, Optical Routing and Switching System Phase II, (IPMI/SBbus based cluster monitoring tool) through Systran Federal Corp SBIR subcontract, \$20,000, 2003-2004.
- Travel Grants for Emerging Faculty, Louisiana Board of Regent, "Co-chairing and organizing 2003 workshop on High Availability and Performance Computing, Santa Fe, NM, October 2003", \$1000.
- High Performance Computing, Intel, "An equipment loan: a cluster of 9 dual Xeon servers (~\$20,000)", December 2003.

- High Performance Computing, Intel, "An equipment loan: a cluster of 18 dual Xeon servers (~ \$50,000)", June 2004.
- High Performance Computing, Intel, "An equipment loan: a cluster of servers (~ \$50,000)", September 2005.

Publications (* *Primary Author from 2002-2005*)

1. * I. Haddad, C. Leangsuksun, S. Scott, "HA-OSCAR: the Birth of Highly Available OSCAR ", a featured article, Linux Journal, November 2003.
2. * C. Leangsuksun, T. Lui, Y. Lui, S. Scott, R. Libby, I. Haddad, "Highly Reliable Linux HPC Clusters: Self-awareness Approach", The [International Symposium on Parallel and Distributed Processing and Applications](#) December 13-15, 2004, Hong Kong, China.
3. * C. Leangsuksun T. Lui, Y. Lui, S. Scott, R. Libby, "A Failure Predictive and Policy-Based High Availability Strategy for Linux High Performance Computing Cluster", The 5th LCI International Conference on Linux Clusters: The HPC Revolution 2004, Austin, TX, May 18-20, 2004.
4. * C Leangsuksun, T. Lui, S. Scott, R. Libby. HA-OSCAR Release 1.0 Beta: Unleashing HA-Beowulf. In *Proceeding of 2nd Annual OSCAR Symposium (OSCAR 2004)*, Winnipeg, Manitoba Canada, May 16-19 2004.
5. * C. Leangsuksun, L Chen, T. Lui, S. Scott, "The Modeling and Dependability Analysis of High Availability OSCAR Cluster System", Proceeding of The 17th Annual International Symposium on High Performance Computing Systems and Applications, Sherbrooke, Canada, May 2003.
6. * C. Leangsuksun, L Chen, T. Lui, S. Scott, "Dependability Prediction of High Availability OSCAR Cluster Server", Proceeding of The 2003 International Conference on Parallel and Distributed Processing Techniques and Applications, June 23-26, 2003, Las Vegas, Nevada, USA.
7. T. Naughton, S. Scott, ... C. Leangsuksun "OSCAR after v2.0: Improvements to, and New Directions for, the OSCAR Toolkit", Dell Power Solutions magazine, November 2003.
8. * C. Leangsuksun, L Chen, T. Lui, S. Scott, "Availability Prediction and Modeling of High Availability OSCAR Cluster", IEEE International Conference on Cluster Computing, December 1-4 2003, Hong Kong.
9. C. Chitnis, C. Cunningham, C (box) Leangsuksun1, G. Turner, "MeshNet: Fault-Tolerant Intra-Cluster Communication Fabric", the 2003 High Availability and Performance Workshop, Santa Fe, NM, October 2003.
- 10.* C. Leangsuksun, L Chen, T. Lui, S. Scott, "Building High Availability and Performance Clusters with HA-OSCAR Toolkits.", the 2003 High Availability and Performance Workshop, Santa Fe, NM, October 2003.

- 11.* B. He, C. Leangsuksun, S. Scott, "Availability and Reliability of iSCSI-based Storage Systems" , the 2003 High Availability and Performance Workshop, Santa Fe, NM, October 2003
- 12.* C. Leangsuksun, L Chen, T. Lui, S. Scott, "Achieving High Availability and Performance Computing with an HA OSCAR Cluster", Journal of Future Generation Computer Systems: Special issue: High-Speed Networks and Services for Data-Intensive Grids, Elsevier Publisher, Netherlands, 2nd half 2005, Vol 21/4 pp 597-606.
13. * I. Haddad, C. Leangsuksun, S. Scott, "HA-OSCAR: Towards Highly Available Linux Clusters", Featured and Cover Article, Linux World Magazine, March 2004 issue.
14. J. Mugler, T. Naughton, S. Scott, ... C. Leangsuksun, "OSCAR Clusters", Proceeding of The Linux Symposium 2003, July 23rd-26th, 2003, Ottawa Canada
- 15.* C. Leangsuksun, M. Takur, H. Song, "Reliability Modeling Using UML", Proceeding of The 2003 International Conference on Software Engineering Research and Practice, June 23-26, 2003, Las Vegas, Nevada, USA.
- 16.* C. Leangsuksun, M. Corley, D. Hall, "Enabling IT for Innovative Product Design Class", Proceeding of the 3rd Conference on Information Technology Curriculum, Rochester, NY, September 2002.
17. * C. Leangsuksun, D Ramamurthy, E. Alexander, "A Feasibility Study for Wireless Cooperative Education", Proceeding of the 3rd Conference on Information Technology Curriculum, Rochester, NY, September 2002.
- 18.B. Abbott et al, "Performance of an Operating High Energy Physics Data Grid: DOSAR-Grid", International Journal of Modern Physics A., January 31, 2005.
19. C. Kottapalli, C. Leangsuksun, H. Song, Y. Liu, "Reliability-Aware Checkpointing Placement Technique in Beowulf Clusters", submitted to The 6th LCI International Conference on Linux Clusters: The HPC Revolution 2004, Chapel Hill, NC, April 18-20, 2005.
- 20.C. Leangsuksun, A. Tikotekar, S. Scott, M. Pourzandi and I. Haddad, "Towards Cluster Survivability", The 6th LCI International Conference on Linux Clusters: The HPC Revolution 2004, Chapel Hill, NC, April 18-20, 2005.
- 21.T. Liu, S. Iqbal, YC Fang, O Celebioglu, V Masheyakhi and R. Rooholamini, and C. Leangsuksun, REM-Rocks: A runtime environment migration scheme for ROCKS based Linux HPC clusters", The 6th LCI International Conference on Linux Clusters: The HPC Revolution 2004, Chapel Hill, NC, April 18-20, 2005.
- 22.C. Leangsuksun, A. Tikotekar, M. Pourzandi and I. Haddad, "Work-In-Progress: Feasibility Study and Early Experimental Results: Towards

- Cluster Survivability", the 2005 international workshop on Cluster Security - The Paradigm Shift, held in conjunction with the Fifth IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid) 2005, Cardiff, UK, May 10-12, 2005
23. C. Leangsuksun, H. Song, "A Light-Weight Model of Solution for Markov Processes", Proceeding of the 43rd annual ACM Southeast Conference, Kennesaw, GA, March 18-20, 2005.
 24. C. B. Leangsuksun, C. V. Kottapalli, H. Song, Y. Liu, "Reliability-Aware Intelligent Checkpointing of MPI Programs in Beowulf Clusters", the 2004 High Availability and Performance Workshop, Santa Fe, NM, October 12, 2004.
 25. C. B. Leangsuksun, T. Roa, J. Xu, S. Scott, R. Libby, "Experiments and Analysis towards effective cluster management system", the 2004 High Availability and Performance Workshop, Santa Fe, NM, October 12, 2004.
 26. K. Limaye, C. B. Leangsuksun, V. K. Munganuru, Z. Greenwood, "HA-OSACAR: Grid-enabled High Availability Framework", 13th Annual Mardi Gras Conference "Frontiers of Grid Applications and Technologies", Baton Rouge, LA, February 3-5, 2005
 27. K. Limaye, C. B. Leangsuksun, V. K. Munganuru, Z. Greenwood, S. Scott, K. Chanchio, "Grid-enabled HA-OSACAR", *OSCAR Symposium (OSCAR 2005)*, Ontario, Canada, May 15-18, 2005
 28. H. Song, and C. B. Leangsuksun, Availability Specification and Evaluation of HA-OSCAR Cluster Servers — An Object-Oriented Approach, The 3rd International Conference on Computing, Communications and Control Technologies, July 24-27, 2005 - Austin, Texas, USA
 29. H. Song, C. B. Leangsuksun, and S. Scott, "UML-Based Beowulf Cluster Availability Modeling", International Conference on Software Engineering Research and Practice (SERP'05), June 27-30, 2005, Las Vegas, USA.
 30. H. Song, C. Leangsuksun, R. Nassar, OOMSE -- An Object Oriented Markov Chain Specification and Evaluation Framework", *The Seventeenth International Conference on Software Engineering and Knowledge Engineering*, Taipei, Taiwan, July 14-16, 2005
 31. K. Limaye, C. B. Leangsuksun, V. K. Munganuru, Z. Greenwood, S. Scott, K. Chanchio, "Job-Site Level Fault Tolerance for Cluster and Grid environments", *the 2005 IEEE Cluster Computing*, Boston, MA, September 27-30, 2005.
 32. Y. Liu, C. B. Leangsuksun, "Reliability-aware Checkpoint /Restart Scheme: A Performability Trade-off", *the 2005 IEEE Cluster Computing*, Boston, MA, September 27-30, 2005.
 33. K. Limaye, C. B. Leangsuksun, V. K. Munganuru, Z. Greenwood, S. Scott, K. Chanchio, Reliability-aware Resource Management for Computational Grid/Cluster environments, International Grid Workshop, Seattle, WA, November 2005.

34. H. Song, C. B. Leangsuksun, N. R. Gottumukkala, S. Scott and A. Yoo, "Near-Real-time Availability Monitoring and Modeling for HPC/HEC runtime system", The 2005 Los Alamos Computer Science Symposium, October 11-13, 2005, Santa Fe, NM, USA.
35. Y. C. Fang, T. Liu, C. Leangsuksun, S. Scott, "The Next Generation Cluster/Cyberinfrastructure Computing Management Standard – SMASH", will appear in the 2005 High Availability and Performance Workshop, Santa Fe, NM, October 11, 2005.
36. H. Ong, R Subramaniyan, C. Leangsuksun, S. Studham, "OpenWLC: A Scalable Workload Characterization System", the 2005 High Availability and Performance Workshop, Santa Fe, NM, October 11, 2005.
37. K. Limaye, C. B. Leangsuksun, A. Tikotekar, "Fault tolerance-enabled HPC scheduling with HA-OSCAR framework", the 2005 High Availability and Performance Workshop, Santa Fe, NM, October 11, 2005.
38. N. R. Gottumukkala, C. B. Leangsuksun, and S. Scott, "Reliability-aware Approach to Improve Job Completion Time for Large-Scale Parallel Applications", the 2nd workshop on High Performance Computing Reliability Issues, held in a conjunction with the IEEE 12th International Symposium on High-Performance Computer Architecture, Austin, Texas, February 11-15, 2006.
39. A. Darivemula, C. Leangsuksun, A. Tikotekar, and M. Pourzandi, "RASS Framework for Cluster-aware SELinux", the 2006 international workshop on Cluster Security - The Secure On-Demand Cluster Computing, held in conjunction with the 6th IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid) 2006, Singapore, May 16-19, 2006.
40. J. Wu, C. Leangsuksun, V. Rampure, Policy-based Access Control Framework for Grid Computing, the 6th IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid) 2006, Singapore, May 16-19, 2006.
41. H. Song, C. B. Leangsuksun, R. Nassar, N. R. Gottumukkala, and S. Scott A. Yoo, "Availability Modeling and Analysis on High Performance Cluster Computing Systems", *To appear in proceedings of International Conference on Availability, Reliability and Security (ARES) 2006*, Vienna, Austria, April 2006.
42. C. Engelmann, S. L. Scott, C. Leangsuksun, and X. He. "Active/Active Replication for Highly Available HPC System Services". *To appear in proceedings of International Symposium on Frontiers in Availability, Reliability and Security (FARES) 2006*, Vienna, Austria, April 2006.
43. C. Leangsuksun, V. K. Munganuru, T. Liu, S. L. Scott, and C. Engelmann. "Asymmetric Active-Active High Availability for High-end Computing". *Proceedings of 2nd International Workshop on Operating Systems, Programming Environments and Management Tools for High-Performance Computing on Clusters (COSET-2)*, Cambridge, MA, USA, June 2005.
44. A. Darivemula, C. Leangsuksun, A. Tikotekar, and M. Pourzandi, "Cluster-aware SELinux", the 2006 international workshop on Cluster

- Security – to appear in proceedings of The 6th LCI International Conference on Linux Clusters: The HPC Revolution 2006, Norman, OK, May 2006.
45. A. Tikotekar, C. Leangsuksun, and S. Scott, "On the Survivability of Standard MPI Applications", to appear in proceedings of The 6th LCI International Conference on Linux Clusters: The HPC Revolution 2006, Norman, OK, May 2006
 46. C. Leangsuksun, T. Rao, A. Tikotekar, S. Scott, R. Libby, J. Vetter, Y C Fang, Hong Ong, "IPMI-based Efficient Notification Framework for Large Scale Cluster Computing", the 2006 international workshop on Cluster Security - The Secure On-Demand Cluster Computing, held in conjunction with the 6th IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid) 2006, Singapore, May 16-19, 2006.
 47. P. Sethi, C. Leangsuksun, "A Novel Computational Framework for Fast Distributed Computing and Knowledge Integration for Microarray Gene Expression Data Analysis, The Second IEEE Workshop on High Performance Computing in Medicine and Biology (*HiPCoMB-2006*) in conjunction with The IEEE 20th Conference on Advanced Information Networking and Applications (AINA 2006), Vienna, Austria April 18-20, 2006

US Patents/Software Releases

- A Framework for Storing/Retrieving (S/R) Operating System and Application States on Non-volatile IPMI System Event Logs, US Provisional Application Serial No. 60/600,096 file on August 9, 2005
- High Availability and Performance Computing Runtime system, HA-OSCAR beta release, <http://xcr.cenit.latech.edu/ha-oscar>, March 2004
- High Availability and Performance Computing Runtime system, HA-OSCAR release 1.1, <http://xcr.cenit.latech.edu/ha-oscar>, September 2005

Invited Presentations

1. Panel presentation "Reliability, Availability and Serviceability Management: Self-awareness approach for HPC infrastructure", the 2004 Oklahoma Supercomputing Symposium, October 8-9, 2004, Norman, OK.
2. "HA-OSCAR: Reliability, Availability and Serviceability management for HPC clusters/HEC: Self-awareness approach", CACS Colloquia, Center for Advanced Computer Studies, University of Louisiana at Lafayette, September 17, 2004.
3. "Summer 2002 Innovative Product Design Course", Louisiana Tech Brown Bag seminar, September 17, 2002.

4. "High Availability and Performance Computing Research at Louisiana Tech University: The current status and vision", Oak Ridge National Lab, Department of Energy, August 2003.
5. "Research at eXtreme Computing Group: High Availability Beowulf cluster, UML based design and Dependability analysis", Dell Labs, Austin, Texas, August 22, 2003.
6. "Towards Non-stop services in HPC Environments", Computer Engineering Department, Kasetsart University, Thailand, November 2003.
7. "Towards Non-stop services in HPC Environments", Computer Engineering Department, Chula University, Thailand, November 2003.
8. "Mission Critical Service-oriented Computing Environments: Research and Current status at XCR Lab", CS Colloquia, Computer Science Department, Kent State University, March 2004.

Tutorial, Poster Presentations and Research Display

1. Extreme Computing Research Booth Display at Supercomputing 2005, Seattle, WA, November 11-17, 2005
2. "Towards Highly Available, Scalable, and Secure HPC Clusters with HA-OSCAR", a half day tutorial, The 6th LCI International Conference on Linux Clusters: The HPC Revolution 2004, Chapel Hill, NC, April 18-20, 2005.
3. "Building Highly Available HPC Clusters with HA-OSCAR", Tutorial, 2004 IEEE Cluster Computing, San Diego, September 19, 2004.
4. "Reliability, Availability and Serviceability management for HPC Linux clusters: Self-awareness approach", Poster Presentation, LASC2004, October 12-14, 2004.
5. "HA-OSCAR: Towards non-stop services in High End and Grid Computing Environments", Poster Presentation, LONI Forum, Baton Rouge, LA, September 1-2, 2004.
6. "Towards Highly Available, Scalable, and Secure HPC Clusters with HA-OSCAR", a half day tutorial, The 2005 IEEE International Conference on Cluster Computing, Boston, MA, September 26-30, 2005.
7. "Towards Highly Available, Scalable, and Secure HPC Clusters with HA-OSCAR", a half day tutorial, The 2006 LCI International Conference on Linux Clusters: The HPC Revolution 2006, Norman, OK, May 2006
8. "Non-Stop HPC and Grid-Enabled Cluster", a half day tutorial, 6th IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid) 2006, Singapore, May 16-19, 2006.

Service

a. College/university service

- Organizer, LONI/Tech IBM P5series Workshop, January 11 2006.
- Planning Committee, Louisiana Optical Network Initiative (LONI) Symposium, 2005
- Chair and Founder, CEnIT/CS Seminar, Fall 2002-Winter 2003.
- Committee Member, 2003 Electrical Engineering Search Team, winter 2002-2003-Spring 2003.
- Chair, High Availability and Performance Computing CS/IT Seminar series, Winter 2003-2004
- Committee Member, Campus-wide wireless network evaluation, Advanced Technology Team, Louisiana Tech University, Winter 2003-2004.
- Committee Member, LONI core team, Louisiana Tech University, 2005.
- IT Subject Matter Expert and Consultant, CEnIT Innovative Product Design Course Projects, 2002-2003
- Judge, local ACM Programming Contest, Spring 2003.

b. Professional service

- Co-Chair and Founder, 2003 Workshop on High Availability and Performance Computing, October 27, 2003, Santa Fe, NM
- Co-Chair 2004 Workshop on High Availability and Performance Computing, October 12, 2004, Santa Fe, NM
- Co-Chair 2005 Workshop on High Availability and Performance Computing, October 11, 2005, Santa Fe, NM
- Tutorial Chair, IEEE Cluster Computing 2005, September 28-30, 2005, Boston, MA.
- Session Chair, Scheduling I. IEEE Cluster Computing 2005, September 28-30, 2005, Boston, MA.
- Editor, proceeding of 2003 Workshop on High Availability and Performance Computing, October 27, 2003, Santa Fe, NM
- Program Committee Member, 2004 International Workshop on Grid Education, April 2004, Chicago, Illinois
- Program Committee Member, 2005 International Workshop on Grid Education, May 2005, Cardiff, England
- Program Committee Member, 2004 IEEE Cluster Computing Conference, September 2004, San Diego, CA

- Program Committee Member, 2005 Cluster-SEC workshop held in conjunction the 2005 IEEE/ACM Cluster Computing and Grid Symposium, May 2005, Cardiff, UK.
- Program Committee Member, the 3rd International Symposium on Parallel and Distributed Processing and Applications 2005, Nanjing, China, November 2-5, 2005.
- Organizing Committee Member, the 2005 Mardi Gras meeting at LSU (February 3-5), with the theme of Grid Computing Applications
- Program Committee Member, 2004 and 2005 Oscar Symposiums.
- Program Committee Member, 2004 and 2005 International Workshop on Operating Systems, Programming Environments and Management Tools for High-Performance Computing on Clusters.

c. Civil service

- Creator and Founder, www.searchkatrina.org, a web site that aims for Katrina hurricane relief effort, September 2005

List of current students can be found at <http://xcr.cenit.latech.edu/people.php>