

CS533 Concepts of Operating Systems

Spring 2008

Tentative Reading Schedule (Subject to Change)

Week 1: April 1

Introduction (no readings due)

Week 2: April 8

Peter Denning, **The Working Set Model for Program Behavior**, Communications of the ACM 11(5), May 1968, pp. 323-333.

J. R. Eykholt et al, "Beyond Multiprocessing... Multithreading the SunOS Kernel." USENIX June 1992, San Antonio, TX.

Week 3: April 15

Guest Lecture by Kathryn Mohror

McKusick, M.K., Joy, W.N., Leffler, S.J., and Fabry, R.S.

"A Fast File System for UNIX"

ACM Transactions on Computer Systems, Vol. 2, No. 3, August 1984, pp. 181-197.

M. Rosenblum and J.K. Ousterhout, "The Design and Implementation of a Log-Structured File System," Proceedings of the Thirteenth ACM Symposium on Operating System Principles, Oct 1991, pp. 1-15.

Week 4: April 22

Sanjay Ghemawat, Howard Gobioff, Shun-Tak Leung, **The Google File System**, Proceedings of 19th ACM Symposium on Operating Systems Principles (SOSP '03), October 2003.

L. Ganesh, H. Weatherspoon, M. Balakrishnan, K. Birman, "Optimizing Power Consumption in Large Scale Storage Systems." HotOS XI, 11th Workshop on Hot Topics in Operating Systems, May 7-9, 2007, San Diego, CA.

Week 5: April 29

Guest lecture on Synchronization.

"The Performance of Spin Lock Alternatives for Shared-Memory Multiprocessors," T. E. Anderson, *IEEE Trans. on Parallel and Distributed Systems*, 1(1):6--16, Jan. 1990.

["Shared Memory Consistency Models: A Tutorial,"](#) Sarita V. Adve, Kourosh Gharachorloo, *digital Western Research Laboratory Research Report 95/7, September 1995.*

Week 6: May 6

**** Project Checkpoint Due Date ****

[The Synergy between Power-aware Memory Systems and Processor Voltage Scaling](#), X. Fan, C. S. Ellis, A. R. Lebeck, in Power Aware Computer Systems (PACS'03), Springer-Verlag, December 2003.

T. Mudge, "Power: A First Class Design Constraint for Future Architectures", High Performance Computer Conference, Bangalore, India, Dec. 2000.

Week 7: May 13

L. Lamport, R. Shostak, and M. Pease [The Byzantine Generals Problem](#) ACM Transactions on Programming Languages and Systems, July 1982, pages 382-401

O. Laadan, J. Nieh, "Transparent Checkpoint-Restart of Multiple Processes on Commodity Operating Systems." 2007 USENIX Annual Technical Conference.

Week 8:

Monday, May 19

SPECIAL CS Colloquium 4 pm

Ron Brightwell, Sandia National Laboratory, <http://www.sandia.gov/~rbbright/>

May 20

F. Petrini, D. Kerbyson, S. Pakin, "The Case of the Missing Supercomputer Performance: Achieving Optimal Performance on the 8,192 Processors of ASCI Q." SC'03, November 15-21, 2003.

R. Brightwell, et al, "A Performance Comparison of Linux and a Lightweight Kernel." Proceedings of the IEEE International Conference on Cluster Computing (CLUSTER '03).

Week 9: May 27

G. DeCandia et al, "Dynamo: Amazon's Highly Available Key-value Store." SOSP '07, October 14-17, 2007, Washington, USA.

E. Bugnion, S. Devine, and M. Rosenblum, "Disco: Running Commodity Operating Systems on Scalable Multiprocessors," Proceedings of the 16th Symposium on Operating Systems Principles (SOSP), Saint-Malo, France, October 1997.

Week 10: June 3

P. Barham, B. Dragovic, et al, "Xen and the Art of Virtualization," SOSP '03, October 19-22, 2003, Bolton Landing, New York, USA.

R. Nathuji, K. Schwan, "VirtualPower: Coordinated Power Management in Virtualized Enterprise Systems." SOSP '07, October 14-17, 2007, Washington, USA.

FINAL: June 10