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CS 6/73201

Final Exam

Advanced OS

Wednesday 12 May 1999

1. In what ways are remote procedure calls (RPCs) and CORBA (i) similar, and (ii) different? (10 points)

2. Briefly explain the Berkeley algorithm for clock synchronization. If you do not remember this algorithm, explain Christian's algorithm for partial credit. (8 points)

3. With regard to mutual exclusion algorithms in a distributed environment, what are the main tradeoffs between centralized algorithms, time-based algorithms such as Ricart and Agrawala's algorithm, and token-passing algorithms such as Le Lann's token-ring algorithm? (12 points)

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7. In load distribution, explain the primary disadvantages of both (i) sender-initiated and (ii) receiver-initiated algorithms. (8 points)

8. In SUN's NFS, what does "mounting a remote file system" mean? (8 points)

9. Briefly name and describe one of the three algorithms discussed in class for dynamic scheduling in a real-time system. (7 points)

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10. At the beginning of the semester, a “true” distributed operating system was defined as having a single operating system, or at least the feel of one. Given the topics discussed in this class, how close are we to developing a true distributed OS? Explain your answer, providing examples where appropriate. (20 points)