CptS 464/564 Homework #1

Given: Wednesday, January 21, 2015
Due: Monday, February 2 by 9am via Blackboard

Weight: 3% of final grade (110 points for 464, 150 points for 564)

Do this homework on a computer, and turn in a PDF, please. For the following problems from [CDKB5], a well focused paragraph, or at most two, will suffice. More verbiage and/or less focus in your answer will only reduce your score.

1. [25 points] Problem 1.1 in [CDKB5].
2. [15 points] Problem 1.4 in [CDKB5].
3. [15 points] Problem 1.12 in [CDKB5].
4. [15 points] Problem 1.14 in [CDKB5]

5. [40 pts for 464; 80 pts for 564] Real Distributed Applications

464: Choose 1 application as per below
564: Choose 2 applications as per below

Choose [1 or 2] real distributed application program(s) that you are familiar with (or could become familiar with if you don’t know any (!!!)). For each application, write a page that includes the following:

- A paragraph or two giving an overview of the application. Make sure to include which generic architecture (remote access, client-server, publish-subscribe/event-based, …) you believe best categorizes the application, and why it does so. Be sure also to describe what application-specific activities the various pieces in that architecture (clients, servers, whatever) are doing: what they are requesting, etc.

- A paragraph or two describing whether you believe the following runtime issues are important to users of this application, and why you believe it (e.g., what happens in its absence):
  - Low latency network connections
  - High bandwidth available
  - Perfectly “consistent” and “correct” replies/answers/service versus an inconsistent or approximate reply/answer/service

To get full credit for 564, your two applications should be different from each other in a number of ways (though not necessarily all possible ways): application architecture, required latency and other runtime issues, etc. Also, the more “interesting” the example the more points; one on a bank or a generic web server is not likely to get 100% of the possible points.