# CS625 Assignment1

Question 1: Describe the seven layers in the OSI network model and what they do.

Layer 1: Physical Layer this layer major in transmitting data bit and set some rules about which bits can be transmitted.

Layer 2: Data Link Layer this layer major in understanding the meaning or structure of the bits and solve the problems.

Layer 3: Network Layer this layer major in finding the next computer and sending the message to it.

Layer 4: Transport Layer this layer major in dealing with the logical connections for the transfer of data between the sender and the destination.

Layer 5: Session Layer this layer major in managing and structuring all sessions.

Layer 6: Presentation Layer this layer major in formatting the data for presentation to the user.

Layer 7: Application Layer this layer major in letting the user to access to the network.

Question 2: Visit the Internet Engineering Task (IETF) website (www.ietf.org). Describe one standard that is in the RFC stage.

Host Software：The software for the ARPA Network exists partly in the IMPs and partly in the respective HOSTs. BB&N has specified the software of the IMPs and it is the responsibility of the HOST groups to agree on HOST software. During the summer of 1968, representatives from the initial four sites met several times to discuss the HOST software and initial experiments on the network. There emerged from these meetings a working group of three, Steve Carr from Utah, Jeff Rulifson from SRI, and Steve Crocker of UCLA, who met during the fall and winter. The most recent meeting was in the last week of March in Utah. Also present was Bill Duvall of SRI who has recently started working with Jeff Rulifson. Somewhat independently, Gerard DeLoche of UCLA has been working on the HOST-IMP interface. I present here some of the tentative agreements reached and some of the open questions encountered. Very little of what is here is firm and reactions are expected.

Question 3: Compare and contrast two-tier, three-tier, and ***n***-tier client–server

architectures. What are the technical differences, and what advantages and disadvantages does each offer?

Technical differences: the numbers of computers which they use. Two-tier: server is responsible for the data and the client is responsible for the application and presentation. Three-tier: software is responsible for presentation and an application server is responsible for the application and a separate database server is responsible for the data. N-tier: client is responsible for the presentation, database is responsible for the data, application logic is spread across two or more different servers.

Advantages: n-tier: it separates the processing that occurs to better balance the load on the different servers.

Disadvantages: n-tier: it puts a greater load on the network. And it is much more difficult to program and test software.

Question 4: Compare and contrast the three cloud computing models.

Private cloud: private clouds are created for the exclusive use of a single private organization.

Public cloud: this deployment model is used by multiple organizations that share the same cloud resources.

Community cloud: this deployment model is used by organizations that have a common purpose.