**What are the design related issues (any two) that needs to be addressed while defining a protocol?**

When defining a network protocol, there are a number of issues to give consideration to. The two that I have chosen to discuss are: Flow Control and Error Control.

FLOW CONTROL

When two computers are communicating on a network, the transmission of data can be affected by a discrepancy in the transmission rate of both computers and by the amount of traffic on the network path between them. Imagine a case where one computer transmits information quickly, but the other computer is experiencing lag due to network traffic or simply being slow to pick up packets of information (Rouse, 2005). . The data sent could become out of sequence or lost entirely. Flow Control is a mechanism by which the two computers can determine how much information will be transmitted so that the message remains in tact.

ERROR CONTROL

Computers are not infallible. When information is transmitted from one computer to another, there can be errors such as omitted data or repeated data. There are protocols that can be implemented, which aim to prevent redundant errors from happening in the first place (Vuran & Akyildiz, 2006). When errors do occur, their detection and what is done to correct the errors is of great importance in maintaining a reliable network.

CONCLUSION

Error Control and Flow Control are only two of many issues that need to be addressed when designing a network protocol. If we ignore these design considerations, the networks we design may be unreliable.

REFERENCES

Rouse, M. (2005). Flow Control. Retrieved from <http://whatis.techtarget.com/definition/flow-control>

Vuran, M. C. & Akyildiz, I. F. (2006). Cross-Layer Analysis of Error Control in Wireless Sensor Networks. IEEE. Retrieved from <http://www.ece.gatech.edu/research/labs/bwn/papers/2006/c2.pdf>