PERFORMANCE ANALYSIS AND MODELLING
OF A SLIDING WINDOW PROTOCOL
USING GO BACK N

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Abstract
The sliding window algorithm is widely used in many standard
network protocols. It can ensure a correct data transfer over unreliable
channels where packets may be duplicated, lost, or re-ordered. The network
protocol is a complex network that very difficult to be analyzed by
mathematical methods. One of the most promising in this problem is system
level modeling and simulation. A number of parameters in the network
protocol have a major effect on the overall performance of the system.

This final project introduces the sliding window protocol and
related parameters. A model and simulation of the protocol is created in
Java Applet. Several simulation results can be derived from this model in
various network environments and different parameter settings. When we
design adaptive algorithms or novel protocols with the sliding window
algorithm, these results are very helpful to identify optimal parameter
settings and to determine a number of key-parameters such as the window
size, frame number, error frame probability, time propagation and time
transmission before the implementation of the protocols.

Keywords : Sliding window protocol, simulation, system performance