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SURACHET SOOKJAROEN : COMMON BUFFER MANAGEMENT FOR
CONGESTION CONTROL IN ATM NETWORKS. THESIS ADVISOR : PROF. DR.
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This thesis proposes a novel credit-based congestion control using common buffer management in order to reduce complexity and increase throughput and fairness in conventional credit-based scheme. The conventional scheme computes the credit based on a per-connection manner. Hence, the implementation complexity is very high. In addition, the conventional scheme performs worse for the throughput and fairness issues due to the computation behavior.

This thesis presents the simulation results to evaluate the performance of the proposed scheme. Moreover, the performance is compared with the conventional scheme. The simulation results indicate that the performance of the common buffer management is not worse than the conventional scheme while the computation complexity is significantly reduced. In addition, the common buffer management performs even better in terms of throughput and fairness when the network has the effect from the length of transmission lines or bursty traffic behavior of data sources.

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