Congestion Control in Asynchronous Transfer Mode (ATM) Network

Congestion has posed a big problem in (ATM) network. Every network user encounters congestion issues. In terms of network, congestion is unpredictable; it can be caused by traffic or too many data that cluster together in the system. In telecommunication, congestion occurs when more users access the network; during the peak period when the control channel is congested as such call cannot be establishment between the sender and receiver. In this paper, fuzzy logic and the proposed parameter called call completion success rate was used to regulate the network instability in Asynchronous Transfer Mode. It was observed that the call completion success rate enabled users to make calls without distortion of network. Comparison was made between fuzzy logic and call completion success rate. It was observed that, congestion load environment 4 has a value for mean bit rate as 1.4, mean burst as 1.4, state of network as 0.94 and retainability 0.9222 the last two are positive. The output signal to the service rate is 0.99 also positive. This implies that, the service rate should be free for calls to flow. The simulation results, shows ways of controlling congestion in ATM Network. The methodology adopted is Object Oriented Analysis and Design Methodology. It was implemented
using Java Programming language and Matlab.

References

2. Salim Hariri and Bei Lu 1996. ATM-Based Parallel and Distributed Computing
3. Açar, G. and Rosenberg, C. 2001. Weighted Fair Bandwidth-on-Demand (WFBoD) for Geostationary

Index Terms

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Keywords

Asynchronous Transfer Mode, Network, Call Retainability, Fuzzy Logic, Call Completion Success Rate.