

ABSTRACT

QoS management absolutely is needed for multiservice network, variant applications which can be served influence to the use of link in that network. Links must be able to handle user need even in congestion condition. It must be a guarantee that link still be alive properly eventhough network experiences heavy request services.

Bandwidth management holds important role in order to manage kind of application which can access remain link beside that it can give us warrant to application which has *bandwidth* allocation to keep sending data although there is congestion in network. Moreover in particular situation, if other application does not use their *bandwidth* allocation, *Bandwidth Manager* will shift that idle bandwidth to class which is experiencing *backlog*. The benefit is not only reducing the packet queue but also optimizing the use of link.

Class Based Queuing (CBQ) with leaf class *First In First Out (FIFO)*, *Stochastic Fairness Queueing (SFQ)* and *Token Bucket Filter (TBF)* as *Bandwidth Manager*, which can be got freely and can be used over *Linux* platform are suitable to analyze the pros and cons. It is expected that *Bandwidth Manager* can be implemented accurately and appropriately so that network will work optimally.

Implementation of *CBQ* with leaf class *FIFO*, *SFQ* and *TBF* can controled *throughput* for each client in the network. This is proved by the result of implementation which bandwidth allocation for 160 Kbps can be divided become 96 Kbps and 64 Kbps for clients, then bandwidth allocation for 256 Kbps can be divided become 128 Kbps for port 1001, 64 Kbps for port 1002, 48 Kbps for port 2001 and 16 Kbps for port 2002. Nevertheless for jitter apparently *CBQ – SFQ* has worst result then others because of *hashing* algorithm which deviding traffic into a few of *FIFO* flow.