

Abstract

Bandwidth management is able to provide guarantee to each user in a network that has a lot of services to obtain a fair and appropriate bandwidth allocation. Increasing number of users and services contained in the network will affect the utility of the network itself. As an example video streaming application will require more bandwidth than ftp or http application, so that the arrangement for access of each applications can not be the same. Network is also required to remain able to handle the needs of a services required by users, even when a lot of demand occurs. By implementing bandwidth management on the network, each user will have bandwidth allocation according to their needs.

Implementation of bandwidth management is done using CBQ (Class Based Queuing) and PRIO (Priority) queueing discipline on Linux operating system. Both queueing disciplines that belong to clasfull method will be used to divide the bandwidth allocation on each http, ftp, and video streaming service over the network. Analysis of all the scenarios tested indicate that the CBQ queueing discipline gives better performance for streaming video applications because it can provide guaranteed bandwidth to each client in order to reach the ideal condition of streaming video.

Keywords: Bandwidth management, Class Based Queueing, Priority Queueing, Video Streaming