Implementasi dan Analisa "Transcoder" Dengan Kemampuan Penyeimbang Beban Untuk Aplikasi Video Streaming

Kalamullah Ramli, author

Abstrak

In recent years, there is a significant increase on the demand of multimedia services. The use and delivery of various multimedia applications, collectively and continuously, creates increasing demand on network bandwidth. However, in most of the countries, the available bandwidth capacity remains very limited Majority users living in these regions are having difficulties to access such applications. A solution to this problem is by embedding the capability to dynamically change the format of bandwidth-intensive multimedia applications to a more efficient one into the network. The process which alters multimedia application from one format to another format is known as Transcoding. For example, cinepak format requiring high bandwidth is transcoded into lower format such as example H263. Since transcoding process is very demanding in terms computing resources, load balancing strategy in a newark environment heaps to share the load among the transcoder processor; and in turn, improves throughput and efficiency. This paper describes the implementation and analysis of applying transcoder with load balancing mechanism in a video streaming environment. Three load balancing algorithms are considered and real tests using various video and audio formats are performed in this environment. Eventhough the load balancing strategy improves the performance of the system, we still find that as the number processes increases the ability to deliver multimedia applications through transcoding process decreases. Moreover, we also conclude that our system still poses scalability problems and therefore further work is required.