

Improved Buffering in P2P Streamed Media

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ABSTRACT

Peer 2 Peer (P2P) streaming is the method of choice for many companies with constraints on server space. As each peer will perform the functions of both the client and server it enables the company to streamline their own technological requirements. P2P video streaming requires far less processing power and bandwidth from the servers, and also relies on the end users to distribute the video between one another using a mesh topology. P2P streaming is already very prevalent with many internet users. It is predicted to get even more popular in the future as more people have access to broadband internet. Current end users expect faster and higher quality content, web streaming companies must move away from the exclusively server based approach and use a mesh P2P streaming solution to preserve the integrity of the media. The delay occurred when streaming from a client/server based system can be inhibiting to the quality of the streamed media to the point that users seek more reliable streaming solutions such as p2p. A start up delay can be in excess of 10 seconds which fundamentally can result in users not using the service. This paper explores the issues of current mesh P2P streaming solutions and proposes an improved algorithm utilizing time slots in the form of a 'snowball' algorithm where traditional servers support P2P. The results illustrates that start up delay on the streamed connection speeds is almost eradicate. In addition to this a caching system is used which ensures that zero buffering will occur on the peer's media stream as long as their download speed stays constant.

Keywords: Peer 2 Peer, P2P, Snowball Algorithm, Streamed Media

