Therefore, large inter-starvation distances in conjunction with small skip lengths would result in an uninterrupted and better quality played back video. Figure 1 illustrates the definitions of these two metrics.

Figure 1: Definitions of skip length and inter-starvation distance

The rest of this paper is organized as follows. Section 2 describes our video streaming system and presents the proposed adaptive scheme. Performance evaluation of our scheme is given in Section 3. Finally, conclusions and summary of results are provided in Section 4.

2 Proposed Adaptive Scheme

Figure 2 describes the proposed video streaming system. In this model, we assume that the receiver continuously monitors the channel state, the playback buffer occupancy, and the quality of the played back video as well as the history of sizes of transmitted video frames. The receiver then feeds back this information to the transmitter/video encoder. Based on this information, the transmitter controls the encoding bitrate of the scalable compressed video and adapts the modulation level and channel coding rate to reduce the likelihood of playback buffer starvation.