In this paper we present multimedia adaptation strategies for live video streams, at the streaming server, where we switch among several versions of the coded multimedia to match the available network bandwidth accurately, and meet client delay constraints. We estimate information about the available network bandwidth, at the server, by monitoring the application buffer and then decide to adaptively switch up or switch down the transmitted bit–rate. We use a piecewise linear model for the network bandwidth to estimate the current and future server buffer drain delay, and derive the transmission rate to minimize client buffer starvation. We implement these strategies in an enterprise streaming system and verify the performance, in terms of the network fidelity and received video quality, using both real as well as simulated network traces.