MAXIMIZING THE PROFIT FOR CACHE REPLACEMENT IN A TRANSCODING PROXY (ThuPmOR6)

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Abstract: Recent technology advances in multimedia communication have ushered in a new era of personal communication. Users can ubiquitously access the Internet via various mobile devices. For the mobile devices featured with lower-bandwidth network connectivity, transcoding can be used to reduce the object size by lowering the quality of a multimedia object. In this paper, we focus on the cache replacement policy in a transcoding proxy, which is a proxy server responsible for transcoding the object and reducing the network traffic. Based on the architecture in prior works, we propose a Maximum Profit Replacement algorithm, abbreviated as MPR. MPR performs cache replacement according to the content in the caching candidate set, which is generated by the concept of dynamic programming. Experimental results show that the proposed MPR outperforms the companion scheme AE in terms of the cache hit ratio prominently.