

论文

## 基于缓存窗口和段补丁预取的流媒体动态调度算法

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摘要

该文提出了一种新的基于缓存窗口和段补丁预取的移动流媒体动态调度算法, 采用代理缓存窗口自适应伸缩和分段缓存补丁块方案, 实现了移动流媒体对象在代理服务器中缓存的数据量及其流行度成正比的原则。仿真结果表明, 对于客户请求到达速率的变化, 该算法比传统算法具有更好的适应性, 在最大缓存空间相同的情况下, 能显著减少通过补丁通道传输的补丁数据, 从而降低了服务器和骨干网络带宽的使用, 能快速缓存媒体对象到缓存窗口, 同时减少了代理服务器的缓存平均占有量。

关键词 [移动流媒体](#) [调度算法](#) [代理缓存](#) [段补丁预取](#)

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## A Dynamic Scheduling Algorithm for Streaming Media Based on the Cache Window and Segment Patch Pre-fetching

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Abstract

A novel dynamic scheduling algorithm for mobile streaming media based on the cache window and segment patch pre-fetching is proposed. It employs the scheme that the cache window size can be increased or decreased adaptively according to the popularity of the requested object and the patch bytes that are segmented and cached. The principle is obeyed that the data cached for each mobile streaming media object are in proportion to their popularity at the proxy server. Simulation results show that this strategy is more adaptive than conventional algorithm for the variety of the request arrival rates. It can significantly reduce patching data through patching channel under the circumstance of the same maximum cache space. This can effectively reduce the server load and network bandwidth usage on backbone link. It can faster cache the media object than P3S2A algorithm. It reduces the average occupied cache space at the proxy.

Key words [Mobile streaming media](#) [Scheduling algorithm](#) [Proxy caching](#) [Segment patch pre-fetching](#)

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