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论文

适用于VBR视频的周期广播方案

张 萍, 刘卫忠, 邹雪城

华中科技大学电子科学与技术系 武汉 430074

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摘要
现有的周期广播方案中，大多数只支持CBR编码的视频，仅有少数能够很好地支持VBR。该文提出一种可支持VBR视频的周期广播方案v-RFS。在该方案中，首先根据RFS算法计算出信道上可分配的最大分段数和分段的调度方案，接着把视频分割为一系列等时长的分段，再按照分段序号等于子分段个数的策略，进一步把分段分割为一组等大小的子分段，最后将子分段进行复用，在原信道中循环播出。v-RFS方案可保证按时传输分段，且传输速率稳定。仿真结果表明，与RFS，Smooth RFS方案相比，该方案提高了网络带宽利用率，缩小客户端缓存区空间。

关键词 视频点播 周期广播 可变码率

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A Novel RFS Broadcasting Scheme for VBR-Encoded Videos

Zhang Ping, Liu Wei-zhong, Zou Xue-cheng

Department of Electronic of Science and Technology, Huazhong University of Science and Technology, Wuhan 430074, China

Abstract
The existing periodic broadcasting schemes mainly support CBR-encoded videos. A modification of recursive frequency-splitting (RFS) scheme, called v-RFS, is presented in this paper to support VBR-encoded videos. In v-RFS, the maximum number and the placement of segments are determined by using the RFS. Then the VBR video is partitioned into a series of segments with equal-length, and these segments are further partitioned into multiple equal-size sub-segments. Finally sub-segments of different segments are multiplexed and transmitted periodically on their channels. The proposed scheme can deliver all segments on time at constant transmission rate. Simulation results indicated that the proposed scheme outperforms RFS and Smooth RFS in improving bandwidth efficiency and reducing client storage.

Key words Video-On-Demand Periodic broadcasting Variable-bit-rate

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通讯作者

作者个人主页 张 萍; 刘卫忠; 邹雪城