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A news-broadcast-on-demand (NBOD) system by employing mobile peer-to-peer streaming

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Effectiveness of peer sharing in peer-to-peer streaming service relies on a large group of steady- and nearby accesses to the same video. However, such an ideal scenario may be unrealistic for some popular mobile streaming services, like news broadcast, where news clips are many but relatively short, users have diversity of interests and mobile devices have limited buffering and communication capabilities available for peer sharing. For solving this problem, we propose a news-broadcast-on-demand (NBOD) system which offers customized news broadcast service. NBOD consists of two components, channel manager and clip scheduler. The channel manager is responsible for categorizing news into several broadcast channels. The clip scheduler is responsible for performing a customized news marquee service of a broadcast channel for each user according to his/her preference. Different clip scheduling policies with different computational complexity are investigated with the objective of exploiting the highest peer sharing possibility. Through simulation, we observe that NBOD can effectively organize news-clip retrievals to leverage peer-sharing efficiency. Tradeoff between the performance and management overhead exhibits a spectrum of design options.

Biography

Sheau-Ru Tong received his BS degree in Computer Engineering from National Chiaotung University, Taiwan, R.O.C. in 1984 and the PhD degree in Computer Science from University of Minnesota, Minneapolis in 1994. In 1994, he joined the Department of Management Information Systems at National Pingtung University of Science and Technology (NPUST). From 2006 to 2010, he served as the Director of the Computer Center of NPUST. Since 2005, he has been a Professor. His current researches involve P2P systems, mobile video streaming, Internet QoS, social networking and augmented reality system and is a member of IEEE.

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