Abstract

Efficient load balancing is an important requirement for intelligent engineering of traffic over all-IP satellite networks. In a Satellite large-scale multimedia storage system (SLMSS) where client requests for different multimedia objects may have different demands, the placement and replication of the objects is an important factor, as it may result in an imbalance in server loading across the system. Since replication management and load balancing are all the more crucial issues in multimedia systems, in the literature, these problems are handled by centralized servers. Each object storage server (OSS) responds to the requests
that come from the centralized servers independently and has no communication with other OSSs in the system. In this paper, we design a novel distributed load balancing strategy for SLMSS, in which OSSs can cooperate to achieve higher performance. Balance the requests among other servers to achieve a near-optimal average waiting time (AWT) of the requests in the system. Our proposed strategy is scalable, flexible, and efficient for real-life applications.

Reference

- Yun Sik Kim; Young-Ho Bae; Youngjae Kim; Chul Hye Park; "Traffic load balancing in low Earth orbit satellite networks" Computer Communications and Networks, 1998.

Index Terms

Computer Science Communications

Key words

Request balancing Load
balancing

Object storage servers

Replication
Multimedia System