博士论坛

一种用于VoIP的负载平衡对等网络架构

张建东　王劲林

中国科学院声学研究所；中国科学院研究生院 中国科学院声学研究所

摘要　　针对VoIP应用，提出了一种负载平衡的对等网络架构。该架构基于Chord对等网络，采用动态更改节点标识的方法平衡各个节点上的注册用户负载。根据两个阈值，监测节点的注册用户负载量，根据负载量使用两种方法实现节点间负载的平衡，以减少节点间负载的转移对网络带宽的额外占用。仿真实验结果表明，单个节点的最大注册用户负载量和节点负载量均方差均小于Chord对等网络。基于该架构实现的对等网络，单个节点资源占用少，适于在资源受限的嵌入式VoIP终端上实现。

关键词　　VoIP　负载平衡　对等网络

分类号

A Load Balancing Peer-to-Peer Network Architecture for VoIP Applications

Jian-Dong Zhang

Abstract

  This paper presents a load balancing peer-to-peer network architecture for VoIP applications, which is based on Chord protocol, and balances the user registrations among nodes by means of changing node identification dynamically. According to two thresholds of user registration loads, nodes check and balance user registration loads with two different methods, therefore network bandwidth overhead are reduced by depressing the frequency of loads transferring between nodes. Simulation result shows that, our peer-to-peer network architecture has less maximum load of single node and load mean square deviation of overall nodes than Chord. Peer-to-peer network implemented with the architecture in this paper, employ less resources in single node, and is suitable for deployment on embedded VoIP terminals with limited resource.

Key words　　VoIP　Load Balancing　Peer-to-Peer Network

DOI:

通讯作者　张建东　zhangjd@dsp.ac.cn