

论文

一种CDMA网络多业务的呼叫允许控制算法

刘莉, 荆涛, 付立, 冯玉珉

北京交通大学电子信息工程学院 北京 100044

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摘要

现今无线网络中的多媒体业务具有很大需求。该文对多业务CDMA通信系统容量进行分析,引入有效带宽概念,提出一种呼叫允许控制资源分配优化算法(CAC-RA)。此算法将多媒体业务分为实时业务和非实时业务,通过对自适应实时业务采用马尔科夫模型,对非实时业务采用排队模型,将两模型合并生成的利益函数采用非线性规划,使呼叫允许控制、切换策略和资源分配问题同时得到解决。实验数据显示CAC-RA算法实现了合理的资源利用和最大的利益值,能较好地适应多业务CDMA网络。

关键词 [CDMA网络](#) [呼叫允许控制](#) [资源分配](#) [多业务](#)

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A Call Admission Control in Multi-Service CDMA Networks

Liu Li, Jing Tao, Fu Li, Feng Yu-min

Institute of Electronic Information Engineering, Beijing Jiaotong University, Beijing 100044, China

Abstract

There is a great demand on multimedia services in wireless networks. Capacity analysis of a multi-service CDMA communication system is employed in which the concept of equivalent bandwidth is introduced, and then an optimal Call Admission Control and Resource Allocation algorithm (CAC-RA) is proposed. in CAC-RA, multimedia traffic is classified into two classes: real-time traffic and non real-time traffic, and manage Call Admission Control (CAC), handoff scheme and resource allocation (RA) together by adopting Markov Decision Process model for adaptive real-time applications, queuing model for non real-time applications, and nonlinear programming for the proposed revenue function which combine these two models. Numerical results reveal that the proposed CAC-RA scheme adapts itself well to multi-service CDMA networks by achieving reasonable utilization of resources.

Key words [CDMA networks](#) [Call Admission Control \(CAC\)](#) [Resource Allocation \(RA\)](#) [Multi-Service](#)

DOI:

通讯作者

作者个人主页 刘莉; 荆涛; 付立; 冯玉珉

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