

论文

业务自相似性对光突发交换调度算法影响分析

王汝言^{①②}, 吴大鹏^③, 隆克平^②

^①重庆邮电大学通信与信息工程学院 重庆 400065; ^②电子科技大学通信与信息工程学院 成都 610054; ^③北京邮电大学宽带通信网络实验室 北京 100876

收稿日期 2006-12-26 修回日期 2007-7-6 网络版发布日期 2008-10-28 接受日期

摘要

使用泊松业务流模型对光突发交换网络进行性能分析不能准确地反映网络状态。该文从理论上对突发包长度进行了推导, 对基于时间门限汇聚机制下突发包数据流自相似程度进行了计算机仿真测量, 并利用自相似业务流模型对光突发交换网络中比较常用的LAUC和LAUC-VF调度算法进行了性能仿真。仿真结果表明: 基于时间门限的汇聚机制能够有效地降低数据流自相似程度, 数据流的自相似特性对LAUC算法的影响并不非常明显, 但对LAUC-VF算法的性能则产生了比较严重的影响, 其突发包丢失率较泊松流平均增加了近3个百分点。

关键词 [光突发交换](#) [自相似业务](#) [调度算法](#)

分类号 [TN915.63](#)

Performance Analysis of Scheduling Algorithm Based on Self-Similar Traffic in Optical Burst Switching Networks

Wang Ru-yan^{①②}, Wu Da-peng^③, Long Ke-ping^②

^①School of Communication and Information Engineering, Chongqing Univ. of Posts and Telecom., Chongqing 400065, China; ^②School of Communication and Information Engineering, Univ. of Electronic Science and Technology of China, Chengdu 610054, China; ^③Broadband Communication Network Lab, Beijing Univ. of Posts and Telecom., Beijing 100876, China

Abstract

Analysis on Optical Burst Switching(OBS)network performance based on the Poisson model would not be exactly. In this paper, the distribution of data burst length is researched, and it is simulated that the self-similarity of data burst traffic assembled by time-based mechanism, moreover, the performance of LAUC and LAUC-VF are shown in the simulations. Simulation and theoretical results show that the assembly mechanism based on time threshold can decrease the traffic's self-similarity, on the other hand, the influence of self-similarity on LAUC is small, but much greater on LAUC-VF whose burst drop probability will be decreased by 3 percent than Poisson stream.

Key words [Optical Burst Switching \(OBS\)](#) [Self-similar traffic](#) [Scheduling algorithm](#)

DOI:

通讯作者

作者个人主页 王汝言^{①②}; 吴大鹏^③; 隆克平^②

扩展功能	
本文信息	
▶	Supporting info
▶	PDF (230KB)
▶	[HTML全文](OKB)
▶	参考文献[PDF]
▶	参考文献
服务与反馈	
▶	把本文推荐给朋友
▶	加入我的书架
▶	加入引用管理器
▶	复制索引
▶	Email Alert
▶	文章反馈
▶	浏览反馈信息
相关信息	
▶	本刊中 包含“光突发交换”的 相关文章
▶本文作者相关文章	
·	王汝言
·	吴大鹏
·	隆克平