

论文

分布式存储系统的可靠性研究

张薇^{1,2};马建峰²;杨晓元¹

(1. 武警工程学院 电子技术系, 陕西 西安 710086;

2. 西安电子科技大学 计算机网络与信息安全教育部重点实验室, 陕西 西安 710071)

摘要:

通过对分布式存储系统体系结构的研究, 认为数据服务的可靠性由时间、节点失效概率密度函数、数据分离算法及存储策略这4个因素影响. 在此基础上, 结合可靠性理论, 用概率方法构造了存储系统的可靠性模型, 根据模型可以对给定系统的可靠性进行预测, 并据此制定存储策略, 从而将可靠性问题在系统设计阶段解决, 并使数据服务的可靠性保持在较高水平.

关键词: 存取结构 失效概率 存储策略

Reliability of distributed storage systems

(1. Engineering Institute of the Armed Police, Xi'an 710086, China;

2. Ministry of Education Key Lab. of Computer Network and Information Security, Xidian Univ., Xi'an 710071, China)

(1. Engineering Institute of the Armed Police, Xi'an 710086, China;

2. Ministry of Education Key Lab. of Computer Network and Information Security, Xidian Univ., Xi'an 710071, China)

Abstract:

Based on invalid probability of storage nodes, a model is provided to evaluate the reliability of a given distributed information storage system. In this model, the reliability of a storage system is affected by 4 factors: time, invalidate probability of storage nodes, data distribution algorithm and storage policy. Such a model could partly solve the reliability problem in the system designing phase, and make data service more reliable.

Keywords: access structure failure probability distributed storage

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通讯作者: 张薇

作者简介:

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