

# 基于网络延时的 CEPH 存储性能优化方法

陈凌剑<sup>1</sup>，王勇<sup>2</sup>，俸皓<sup>2</sup>

(1 桂林电子科技大学 信息与通信工程学院, 广西 桂林 541004;

2 桂林电子科技大学 广西高校云计算与复杂系统重点实验室, 广西 桂林 541004)

**摘要:** 通过分析集群中单节点在不同网络延时下的延时大小与集群存储性能的关系, 提出基于网络时延的权重改进方法. 实验表明所提出的方法可根据存储节点的网络时延对权重进行再调整, 使数据较大概率存入网络时延小的节点. 该方法降低了由单一节点网络延时引起的存储性能损耗, 从而提高了 CEPH 分布式存储系统的存储性能.

**关键词:** CEPH; CRUSH; 分布式存储; 任务调度; 负载均衡

## Method to Improve the Performance of CEPH Storage

### Based on Network Delay

CHEN Ling-jian<sup>1</sup>, WANG Yong<sup>2</sup>, FENG Hao<sup>2</sup>

(1 School of Information and Communication Engineering, Guilin University of Electronic Technology, Guilin 541004, China; 2 Guangxi Colleges and Universities Key Laboratory of Cloud Computing and Complex Systems, Guilin University of Electronic Technology, Guilin 541004, China)

**Abstract:** This article propose an new method based on weight of network delay by analysis the relationship of one node's network delay and the storage performance of CEPH. The experiments show that the method could adjust the node's weight depended on the network delay of that node, so that data files could be stored in good network performance with greater probability. This new method reduces the time cost caused by network delay and improves the performance of CEPH storage system in that case.

**Key words:** CEPH; CRUSH; distribute system; task scheduling; load balancing

作者简介:

陈凌剑 男, (1990-), 硕士研究生. 研究方向为云计算、分布式存储.

E-mail:250316792@qq.com.

王勇 男, (1964-), 博士, 教授. 研究方向为智能计算、泛在网研究及应用、计算机网络技术.

俸皓 男, (1978-), 博士研究生. 研究方向为无线传感器网络、移动计算、嵌入式实施软件等.