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federated configuration; Building file sync and share service using RGW; Chapter 4: Working with the Ceph Filesystem; Introduction; Understanding Ceph Filesystem and MDS; Deploying Ceph MDS; Accessing CephFS via kernel driver; Accessing CephFS via FUSE client; Exporting Ceph Filesystem as NFS; ceph-dokan - CephFS for Windows clients; CephFS a drop-in replacement for HDFS Chapter 5: Monitoring Ceph Clusters using Calamari Introduction; Ceph cluster monitoring - the classic way; Monitoring Ceph clusters; Introducing Ceph Calamari; Building Calamari server packages; Building Calamari client packages; Setting up Calamari master server; Adding Ceph nodes to Calamari; Monitoring Ceph clusters from the Calamari dashboard; Troubleshooting Calamari; Chapter 6: Operating and Managing a Ceph Cluster; Introduction; Understanding Ceph service management; Managing the cluster configuration file; Running Ceph with SYSVINIT; Running Ceph as a service Scale-up versus scale-out Scaling out your Ceph cluster; Scaling down your Ceph cluster; Replacing a failed disk in the Ceph cluster; Upgrading your Ceph cluster; Maintaining a Ceph cluster; Chapter 7: Ceph under the Hood; Introduction; Ceph scalability and high availability; Understanding the CRUSH mechanism; CRUSH map internals; Ceph cluster map; High availability monitors; Ceph authentication and authorization; Ceph dynamic cluster management; Ceph placement group; Placement group states; Creating Ceph pools on specific OSDs; Chapter 8: Production Planning and Performance Tuning for Ceph Introduction

Sommario/riassunto

Over 100 effective recipes to help you design, implement, and manage the software-defined and massively scalable Ceph storage system About This Book Implement a Ceph cluster successfully and gain deep insights into its best practices Harness the abilities of experienced storage administrators and architects, and run your own software-defined storage system This comprehensive, step-by-step guide will show you how to build and manage Ceph storage in production environment Who This Book Is For This book is aimed at storage and cloud system engineers, system administrators, and technical architects who are interested in building software-defined storage solutions to power their cloud and virtual infrastructure. If you have basic knowledge of GNU/Linux and storage systems, with no experience of software defined storage solutions and Ceph, but eager to learn this book is for you. What You Will Learn Understand, install, configure, and manage the Ceph storage system Get to grips with performance tuning and benchmarking, and gain practical tips to run Ceph in production Integrate Ceph with OpenStack Cinder, Glance, and nova components Deep dive into Ceph object storage, including s3, swift, and keystone integration Build a Dropbox-like file sync and share service and Ceph federated gateway setup Gain hands-on experience with Calamari and VSM for cluster monitoring Familiarize yourself with Ceph operations such as maintenance, monitoring, and troubleshooting Understand advanced topics including erasure coding, CRUSH map, cache pool, and system maintenance In Detail Ceph is a unified, distributed storage system designed for excellent performance, reliability, and scalability. This cutting-edge technology has been transforming the storage industry, and is evolving rapidly as a leader in software-defined storage space, extending full support to cloud platforms such as Openstack and Cloudstack, including virtualization platforms. It is the most popular storage backend for Openstack, public, and private clouds, so is the first choice for a storage solution. Ceph is backed by RedHat and is developed by a thriving open source community of individual

developers as well as several companies across the globe. This book takes you from a basic knowledge of Ceph to an expert understanding of the most advanced features, walking you through building up a production-grade Ceph storage cluster and helping you develop all the skills you need to plan, deploy, and effecti...
