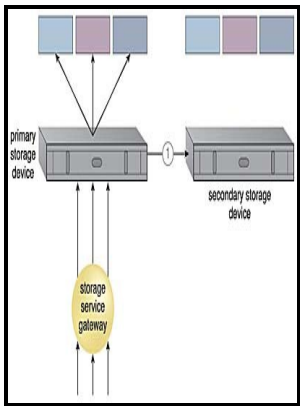
Redundant disk arrays - reliable, parallel secondary storage

MIT Press - Reviews for Paper Id 6



Description: -
-
Helicopters -- Flight testing
Rotors (Helicopters)
Aeronautical instruments
Parallel processing (Electronic computers)
Magnetic disks.Redundant disk arrays - reliable, parallel secondary storage
-
NASA technical paper ; 1146
ACM distinguished dissertationsRedundant disk arrays - reliable, parallel secondary storage
Notes: Includes bibliographical references (p. [257]-281) and index.
This edition was published in 1992

Filesize: 69.103 MB

Tags: #Using #Redundancy #to #Speed #up #Disk #Arrays

RAID: High

The paper first introduced two orthogonal concepts adopted by all disk array designs: data striping for improved performance and redundancy for improved reliability. .

Using Redundancy to Speed up Disk Arrays

The paper starts with introducing two classic disk techniques: striping across multiple disks to improve performance and redundancy to improve reliability. Because of this, once a design is created, it can be very difficult to make changes to the design, particularly when new error types are introduced or when existing error types are altered.

A Highly Accurate Method for Assessing Reliability of Redundant Arrays of Inexpensive Disks (RAID)

At least some operating systems are considering reliability implications before new adding features, so in 2001 the failures largely occur elsewhere. The method used to release these resources is determined via a table-lookup during error recovery. .

Redundant Disk Arrays: Reliable, Parallel Secondary Storage

First, we assume that filesystems or databases do not expect storage systems to guarantee operational atomicity. The RAID Advisory Board has since substituted the term Inexpensive with Independent. We were not the first to think of the idea of replacing what Patterson described as a slow large expensive disk SLED with an array of inexpensive disks.

CiteSeerX — Citation Query Redundant disk arrays: Reliable, parallel secondary storage

We now examine the applicability of techniques from each of these classes to the domain of redundant disk arrays. When an error is encountered, recovery is performed to a convenient error-free state, not necessarily the same state the system was in at the beginning of the operation. Various RAID levels are described; RAID 0, the simplest system, only increases capacity, while the other systems proposed also offer increased reliability.

A Highly Accurate Method for Assessing Reliability of Redundant Arrays of Inexpensive Disks (RAID)

FCC The final set of data comes from the government. Redundant disk arrays are a popular method of improving the dependability and performance of disk storage and an ever-increasing number of array architectures are being proposed to balance cost, performance, and dependability. RAID, a technology that started out as graduate and Doctoral research projects, now powers a wide array of technology from home computers to large datacenters.

Redundant Disk Arrays: Reliable, Parallel Secondary Storage

We find that in the field, annual disk replacement rates typically exceed 1%, with 2-4 % common and up to 13% observed on some systems. . It is well-known that Reed-Solomon codes may be used to provide error correction for multiple failures in RAID-like systems.

Using Redundancy to Speed up Disk Arrays

The goal of the paper is to present a systematic tutorial and survey of disk arrays. .

Related Books