

LDPC Codes for storage system (NYP ID: 0429)

Technology

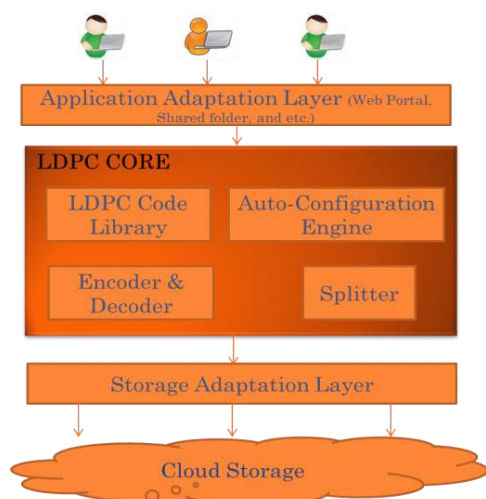
A highly reliable storage system achieved by low spatial, computation & bandwidth overhead based on a new method to construct LDPC codes for adding redundancy.

Type of IP and status

Patent. Singapore Application No. 10201500905Q.

Overview

Redundancy has to be added into any cloud storage to ensure certain level of reliability. The invention discloses a novel way to construct erasure codes to add redundancy, to distribute the data to the distributed storage or storage arrays, and to add redundancy efficiently for data with increasing size.



Potential Applications

- Middleware for storage service providers or data centre operators
- Storage gateway for enterprise cloud storage users

Advantages

High reliability is achieved with high efficiency and low consumption of system resources. The potential benefits are elaborated as follow:

- Increased reliability can be achieved with the same computational complexity and consumption of system resources. This is superior to traditional technology where the complexity increases linearly with the reliability.
- Efficient appending is supported. For certain configurations, the encoding efficiency can be improved with an increase in reliability by 67% in terms of the percentages of chunks required to be re-encoded. The increment can be greater, depending on the specific parameters setting.

These benefits are proved on the Hadoop platform using our in-house infrastructure and Amazon Web Services.

Technology & Licensing Enquiries

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