

MDS Codes for Distributed Storage system

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Distributed storage systems with high reliability have wide applications in large data centers, peer-to-peer storage systems such as OceanStore, Total Recall, DHash++, and storage in wireless networks. To ensure reliability, the redundancy is crucial for these systems. A popular option to add redundancy is to employ erasure codes which can efficiently store data and protect against node failures. Examples of several distributed storage systems that employ erasure codes are Facebooks coded Hadoop, Google Colossus and Microsoft Azure. Recently, for distributed storage systems called minimum storage regenerating (MSR or MDS storage) codes was introduced. In this talk, the known results on MDS storage codes will be reviewed firstly, further our recent work will be introduced, especially a generic transformation which can transform any MDS code to MDS storage with optimal repair property for any nodes.