A Scalable Data Chunk Similaritybased Compression Approach for Efficient Big Sensing Data Processing on Cloud

ABSTRACT:

Big sensing data is prevalent in both industry and scientific research applications where the data is generated with high volume and velocity. Cloud computing provides a promising platform for big sensing data processing and storage as it provides a flexible stack of massive computing, storage, and software services in a scalable manner. Current big sensing data processing on Cloud have adopted some data compression techniques. However, due to the high volume and velocity of big sensing data, traditional data compression techniques lack sufficient efficiency and scalability for data processing. Based on specific on-Cloud data compression requirements, we propose a novel scalable data compression approach based on calculating similarity among the partitioned data chunks. Instead of compressing basic data units, the compression will be conducted over partitioned data chunks. To restore original data sets, some restoration functions and predictions will

be designed. MapReduce is used for algorithm implementation to achieve extra scalability on Cloud.

selective encryption strategy within the required execution time requirements.

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