In the era of big data, the rapid growth in data volume and complexity requires highly efficient schemes to reduce the amounts of data. Deduplication schemes can remove the redundant data, which is helpful to obtain space savings and improve network bandwidth efficiency. In this talk, I will present an overview of data deduplication schemes in a bottom-up manner. First, in the chunk-level deduplication, the locality and similarity are explored and exploited to support fast indexing to identify possibly duplicate data. Moreover, in the application level, similar images often consume large amounts of storage capacity, which can be efficiently addressed by feature-based compression approaches. Therefore, the deduplication schemes construct a bottom-up ecosystem to significantly improve system performance.

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