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A Survey of Indexing Schemes in Cloud Data Management

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Abstract: Unsurprisingly, the new IT infrastructure, so called Cloud Computing, has been evolving dramatically which leads individuals and enterprises shift to it and embrace this new technology. Accordingly, this new business model must provision both availability and scalability for its customers in order to satisfy their highly-demanding needs. Since many users can connect and utilize the Cloud data centers simultaneously, query processing and information retrieval might take much time than it is required for on-premises data centers. As a consequence, the necessity for top-notch techniques in indexing is mandatory with the aim of processing and managing those large scale data in Cloud environment. Fortunately, the researchers' community interested in Cloud data management has conducted various indexing schemes to solve this new, emerging problems and challenges in Cloud systems. This paper carries out a concise survey about the recent schemes of indexing in the field of Cloud data management; showing their purposes, applied techniques, methodology, and experimental results and performance. Furthermore, an assessment and comparison between these up-to-date schemes is done; depicting their general characteristics with the intention of giving a deep insight of the current issues and challenges for future work.