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# An IoT-Oriented Data Placement Method with Privacy Preservation in Cloud Environment

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## Abstract

IoT (Internet of Things) devices generate huge amount of data which require rich resources for data storage and processing. Cloud computing is one of the most popular paradigms to accommodate such IoT data. However, the privacy conflicts combined in the IoT data makes the data placement problem more complicated, and the resource manager needs to take into account the resource efficiency, the power consumption of cloud data centers, and the data access time for the IoT applications while allocating the resources for the IoT data. In view of this challenge, an IoT-oriented Data Placement method with privacy preservation, named IDP, is designed in this paper. Technically, the resource utilization, energy consumption and data access time in the cloud data center with the fat-tree topology are analyzed first. Then a corresponding data placement method, based on the Non-dominated Sorting Genetic Algorithm II

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