**CONCLUSION**

Distributing data on multiple clouds provides users with a certain degree of information leakage control in that no single cloud provider is privy to all the user’s data. However, unplanned distribution of data chunks can lead to avoidable information leakage. We show that distributing data chunks in a round robin way can leak user’s data as high as 80% of the total information with the increase in the number of data synchronization. To optimize the information leakage, we presented the StoreSim, an information leakage aware storage system in the multicloud. StoreSim achieves this goal by using novel algorithms, BFSMinHash and SPClustering, which place the data with minimal information leakage (based on similarity) on the same cloud. Through an extensive evaluation based on two real datasets, we demonstrate that StoreSim is both effective and efficient (in terms of time and storage space) in minimizing information leakage during the process of synchronization in multicloud. We show that our StoreSim can achieve near-optimal performance and reduce information leakage up to 60% compared to unplanned placement. Finally, through our attackability analysis, we further demonstrate that StoreSim not only reduces the risk of wholesale information leakage but also makes attacks on retail information much more complex.