A Review of Encryption Algorithms Used in Cloud Computing

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Abstract : Cloud computing offers distributed online and on-demand computational services from anywhere in the world. Cloud computing services have grown immensely over the past years, especially in the past year due to the Coronavirus pandemic. Cloud computing has changed the working environment and introduced work from work phenomenon, which enabled the adoption of technologies to fulfill the new workings, including cloud services offerings. The increased cloud computing adoption has come with new challenges regarding data privacy and its integrity in the cloud environment. Previously advanced encryption algorithms failed to reduce the memory space required for cloud computing performance, thus increasing the computational cost. This paper reviews the existing encryption algorithms used in cloud computing. In the future, artificial neural networks (ANN) algorithm design will be presented as a security solution to ensure data integrity, confidentiality, privacy, and availability of user data in cloud computing. Moreover, MATLAB will be used to evaluate the proposed solution, and simulation results will be presented.

Keywords : cloud computing, data integrity, confidentiality, privacy, availability

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