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## Abstract

A smart grid is modernized electrical equipment that uses analog or digital information in an automated fashion to improve the efficiency, reliability, economics, and sustainability of the production and distribution of electricity. The main challenges of smart grids, however, to manage different types of front-end intelligent devices such as power assets and smart meters efficiently, and how to process a huge amount of data received from these devices. Cloud computing is a model for enabling ubiquitous network access to a shared pool of configurable computing resources. It relies on sharing of resources to achieve coherence and economies of scale. This Cloud computing technology is used to address the challenges of Smart grid. The system consists of secure cloud computing based framework for big data information management in smart grids. It has a hierarchical structure of cloud computing center to provide different types of computing services for information management and big data analysis. In addition to this structural framework, a security solution is proposed based attribute based encryption to address critical security issues of the proposed framework.

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## Index Terms

Computer Science

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## Keywords

Smart Grid, Attribute Based Encryption, Cloud.