

A Real-Time Intelligent Abnormity Diagnosis Platform in Electric Power System

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Abstract—With the rapid development of smart grid, intelligent electric meters can be seen in most of the households, and the volume of electric energy data is in a rapid growth. This paper mainly aims at introducing an abnormity diagnosis platform in electric power system. It is used to distinguish the abnormal point according to the history data and expert experience, and put forward some resolving scheme to ensure the high reliability and stability of power network. In our approach, we use the distributed technologies to process big electric energy data, the distributed file system (Hadoop) and distributed database (HBase) are applied to storage data, distributed computing technology (Mapreduce) is applied to construct knowledge base and compute. In the inference engine, we use Hidden Markov Model. This model can auto-get and modify knowledge in knowledge base, achieve a better real time characteristics, through self-learning function and machine as well as interacting between human. The results show that this abnormity intelligent diagnoses platform is effective and faster.

Keyword—Abnormity Intelligent Diagnosis, Distributed Storage, Distributed Computing, Hidden Markov Model



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