Proof of Authority Consensus in SmartGrid Applications

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***Abstract*—Existing attempts at deploying a blockchain based application in the energy sector have not proven to meet the requirements of an environment like the energy grid. Specifically, public blockchain applications running on Proof of Work and Proof of Stake consensus mechanisms tend to suffer from low throughput speeds and cannot keep up with the near real time pace of the grid. These limitations make them unsuitable for most applications at scale. This is particularly true in a SmartGrid environment where there is demand for high throughput volume but also requires accuracy and querability.**

Proof of Authority (PoA) consensus mechanisms depoloyed on private or consortium blockchains show promise in bringing the throughput of blockchain applications to an acceptable level.

This paper explores this subset of blockchain applications, and attempts to... wtf am I doing.

***Index Terms*—SmartGrid, Blockchain, Smart contract, Proof of Authority, consortium blockchain, private blockchain**

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