**769: Performance evaluation and comparison of blockchain mechanismsfor transaction management in E – healthcare.**

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**Abstract:**  Blockchain includes a number of capabilities built-in, including distributed ledgers,decentralized storage, authentication, security, and immutability. It has progressed past the hype to find actual use cases in industries like healthcare. Blockchain technology makes it possible to have a distributed, decentralized ecosystem without the need for centralized power. Transactions are secure and reliable because of the application of cryptographic concepts. Healthcare is one industry where blockchain technology has enormous potential since it can help integrate fragmented systems, improve the quality of electronic medical data, and take a more patient-centric approach to E- healthcare systems. The most recent blockchain research in the healthcare industry is analyzed and compared with a client-server architecture and various. The objective of this paper is to highlight the comparison of various mechanism including proof of work, Bft- Byzantine Fault Tolerance and Pbft- Practical Byzantine Fault Tolerance, of the blockchain-based E- healthcare system research in healthcare, as well as to showcase the potential uses of the technology. Applications can be created, distributed, and run using the open source Docker platform. In this paper Hyperledger caliper tool is used to evaluate the performance of consensus mechanisms. The result shows huge reduction in network latency, which helps to improve the performance of the EHR-Electronic health records system. The minimal latency for a transaction rate of 50 is roughly 7 seconds, down from 52 seconds. There are 37s for 250 tps, which is a decrease from the 50s. This is a system performance that can be improved by changing the hyperledger network configuration with PBFT- Practical Byzantine Fault Tolerances compared to Proof of work and proof of stake.

**Keywords:** Blockchain, Consensus mechanism, Docker Platform, PBFT- Practical Byzantine Fault Tolerance, Proof of work.