

ABSTRACT

To conduct an exchange of data or information, communication between one komputer and another komputer is needed by using file sharing. File Sharing is a provision and acceptance of digital files through a network that uses a centralized model or often called peer to peer (P2P), files are stored and managed by a personal komputer on a user. All business activities are carried out through contracting. Smart Contract Ethereum is the solution to the problem of written contracts. Smart Contract is a komputer protocol that is intended to facilitate, verify, or enforce negotiations or the performance of a contract digitally through the program code. Because currently more and more technology is supporting file sharing, one solution to maintaining the security of data is IPFS (Interplanetary File System) a secure distributed peer-to-peer file system using an encrypted file system (hash) that connects all computing devices with the same file system. Blockchain is a system for storing information that is disseminated on a komputer so that information is safer. Blockchain is useful for storing less data, such as hash value information, transactions and metadata. To implement IPFS on Smart Contract Ethereum we have to analyze the system process to find out how the transaction process and data storage, Smart Contract, is a system to aid in receiving and sending data. Ethereum is a Blockchain based platform. Therefore, this study was conducted to determine the system process for IPFS so that the Smart Contract Ethereum can run properly and properly. The results obtained in this study are that there is a process that uses CPU resources above 400% because the Thread process has a multiprocessing work method. There are two applications that do not use CPU resources, namely React Script and Start.js because the application only uses memory resources to run.

Keyword : Blockchain, Smart Contract Ethereum, Peer to peer, InterPlanetary File System (IPFS), Process System.