TECHNICAL ARCHITECTURE

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The exponential growth of the Internet of Things (IoT) is being witnessed nowadays in different sectors. This makes IoT data communications more complex and harder to manage. Addressing such a challenge using a centralized model is an ineffective approach and would result in security and privacy difficulties. Technologies such as block chain provide a potential solution to enable secure and effective management of IoT data communication in a distributed and trust less manner. In this paper, a novel lightweight block chain-centric IoT architecture is proposed to address effective IoT data communication management. It is based on an event-driven smart contract that enables manageable and trustless IoT data exchange using a simple publish/subscribe model. To maintain system complexity and overhead at a minimum, the design of the proposed system relies on a single smart contract. All the system operations that enable effective IoT data communication among the different parties of the system are defined in the smart contract.