Abstract

The communication technology for power systems a major focus in the development and deployment of smart grid, the SCTP protocol, which was initially designed for transporting signaling messages over IP networks, is now an established in different domain, and lately in Smart Grid communications. SCTP can provide high-performance transmission in both wired and wireless networks. This paper describes different components of smart grid and the smart grid communications layer then we propose a new approach to employ the Stream Control Transmission Protocol (SCTP) in a smart grid, by using the two very significant characteristics offered by SCTP multi-homing and multi-streaming respectively. The simulation results show the comparison between two protocols of the transport layer, TCP and SCTP in terms of the throughput and delay. The simulation works have been conducted in NS2 network simulator.

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**Index Terms**

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