Abstract

High-speed and reliable mechanism is required to support peer-to-peer communications for implementing distributed functions in Substation Automation System (SAS). This paper presents the practical implementation and testing of protection scheme based on high-speed peer-to-peer communication using GOOSE (Generic Object Oriented Substation Event) message model in a laboratory setup. An analysis of the performance advantages of GOOSE based protection over its conventional hard-wired counterpart is also presented. The laboratory setup used for this work is conceptualized and commissioned in the Substation Automation Laboratory of Jamia Millia Islamia University, New Delhi, India.

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**Index Terms**

Computer Science

Communications

**Keywords**

Distributed Protection    GOOSE    IEC 61850    Substation Communication Network (SCN)