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.

References


- The automation of new and existing substations: why and how, Sponsored by the CIGRE Study Committee B5, Report No: August 2003.
- Andrew Rindos, Steven Woollet, Larry Nicholson andladen Vouk, M. A Performance Evaluation of Emerging Ethernet Technologies: Swicthed/High-Speed/Full-Duplex Ethernet and Ethernet LAN Emulsion over ATM.
High-speed Peer-to-peer Communication based Protection Scheme Implementation and Testing in Laboratory

- IEEE 802.1Q: 1998 IEEE Standard for Local and Metropolitan Area Networks; Virtual Bridge Local Area Networks.

**Index Terms**

Computer Science

Communications

**Keywords**

Distributed Protection  GOOSE  IEC 61850  Substation Communication Network (SCN)