Abstract

This work presents a review on the OLE FOR PROCESS CONTROL – UNIFIED ARCHITECTURE OPC-UA framework and standards aiming to use OPC-UA in SmartGrids applications. The support for Service Oriented Architecture (SOA) and native security implementation of the OPC-UA are analyzed as an option to supervise and control small Microgrids, like microgeneration farm in Green Datacenters. Based in these features a communication model based on OPC-UA framework was proposed. The main contribution of this work is a performance evaluation of the OPC-UA transmission time between Microgrids devices (electrical converters and inverters, power meters and controllers) and the comparison with IEC 1646 and IEC 61850 standards requirements.
References


Index Terms

- Computer Science
- Information Sciences

Keywords

OPC-UA, SmartGrids, Microgrids, Green datacenters, Cybersecurity.