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.