Integration of SCADA and Industrial IoT: Opportunities and Challenges

A. Nechibvute & H. D. Mafukidze

Abstract

SCADA systems are used in industries to perform control and monitoring of industrial processes in real-time. The advent of the Internet of Things (IoT), and the Industrial IoT (IIoT) in particular, has brought new disruptive technology that has the potential to drive the industrial digitization agenda well beyond the capabilities demonstrated by conventional SCADA systems. Industries, particularly manufacturing industries and utilities keep thriving to be competitive and the adoption of new technologies in the form of IIoT is set to improve efficiency and productivity through enhanced real-time data analytics and production availability. This paper examines the opportunities and challenges presented by integrating IIoT into existing SCADA systems. Potential solutions to the challenges are presented together with future research outlooks that have a bearing on the SCADA/IIoT integration efforts.