

ELECTRICAL AUTOMATION SYSTEMS TOWARDS INTELLIGENT AND ENERGY EFFICIENCY APPLICATIONS

Musse Mohamud Ahmed



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APPLICATIONS

Musse Mohamud Ahmed

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CHAPTER 5

SCADA SOFTWARE DEVELOPMENT–INDUSOFT CASE STUDY

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The information presented in this chapter is based on a previous study on InduSoft Web Studio (IWS) along with Remote Terminal Unit (RTU) to provide application solution for SCADA system for intelligent distribution automation at service substations and this consists of SCADA implementation, operation with faults, operation without faults and fault isolation system formulations.

5.1 Indusoft Software Overview

IWS has been used in a wide range of industries. This is probably IWS has offered features that are not offered by other SCADA software producers. For example, InduSoft Web Studio 6.1 provides Visual Basic (VB) scripting that can be exported to Windows Consumer Electronics (Windows CE) devices such as Personal Digital Assistants (PDAs) or viewed on Web Browsers. Some of the SCADA software systems such as Paragon software which is a 32 bit, client/server product for assembling Man Machine Interface (MMI) and SCADA does not provide this feature

The main feature delivered by InduSoft is its ability to support Window CE operating systems. This feature has made some manufacturers or providers to used InduSoft software and integrates to their systems. MICON system was looking for a wireless human machine interface (HMI) around a Casio Windows CE 3.0 PDA. The HMI gives operators the power of a full-featured operator interface at the distributed unit control level and the ability to monitor and control process activities using PDA. They tried to find a CE-based HMI software package that would work. They tried four different CE software packages but all of the software packages only worked in NT version. InduSoft's WebStudio HMI/SCADA worked great in Window CE.

With enterprise connectivity becoming important, SCADA applications need more and better database tools. InduSoft Web Studio has two features: first, the database interface for Window CE, second, a powerful database querying tool which allows direct interfacing to SQL from within InduSoft Web Studio.

5.1.1 IWS Structure

IWS is a SCADA system composed of modules that must be executed simultaneously. These modules are described in Figure 5.1. Based on the multi-tasking concept, each runtime module is a thread and the operating system switches from one thread to other automatically.