NETWORK ENABLED ENERGY MEASURING SYSTEM

A PROJECT REPORT PRESENTED BY

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Electricity and other forms of energy are billed in accordance with energy consumption that may vary with the size of the customer and the time of the day. It is clear that the existing conventional manual billing system has some serious drawbacks that will degrade the quality of the service. With the advancement of technology all conventional systems need an amendment which is also applicable to electricity billing systems.

This report presents a "Network Enabled Energy Measuring System" for effective reading of electricity meters located in large commercial buildings. Furthermore, it provides timely notification of power status and the service of disconnection and reconnection of power to the consumer by a remote unit installed in each building.

The reading data and the power status of the remote location are sent back to a main controller software module through Ethernet where it is cooperated with Electricity Company's database.

The project utilizes embedded electronic devices and sensors with some custom programmed or pre programmed intelligence to monitor and control equipment at the remote network locations. An embedded device named TINI "Tini InterNet Interfaces" is used in order to read the electricity meters and monitor the power status of the remote location using 1-wire protocol. The feedback from the counting device which is connected to the electricity meter and the control of the switch that disconnects or reconnects the service is gathered via a 1-wire network. The main control unit is also developed to gather data periodically from the remote location and store data in such a way that it can be used for further analysis. It also registers the devices at the remote location and enables the user to control the switching devices remotely.