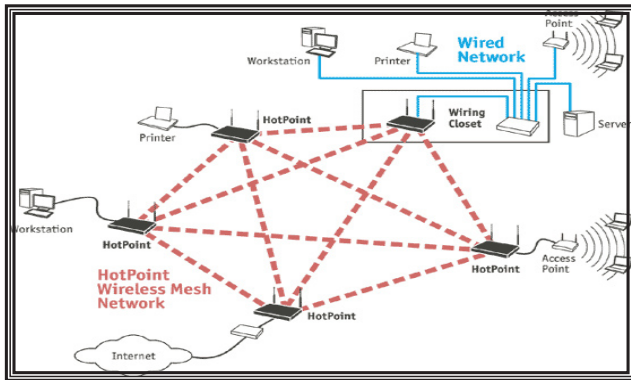
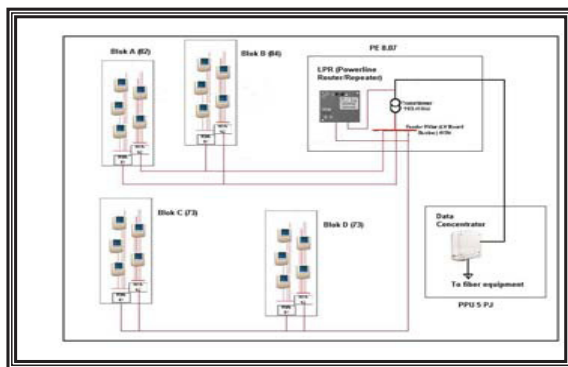


R&D Fund Project

Comparative Study & Evaluation on Radio Frequency and Power Line Communication (PLC) for Automated meter Reading



Typical wireless AMR network



PLC based AMR Network

Project Overview

This comparative study was carried out in order to identify the most viable and economical communication technology to implement an Automated Meter Reading system for ordinary power consumers (OPC). Five technologies were identified

for comparison that is GSM, GPRS, WiFi, ZigBee and Power Line Communication and these systems were studied based on the technical requirements and the cost implications. Each of these technologies was studied for two different geographical area that is the largely distributed area (single/double storey houses) and high rise buildings (apartments, office blocks .etc.). The technical study on these technologies was done by identifying the equipment required such as the meter communication module (transceivers), repeaters, routers and data concentrators that forms the communication network. Two types of communication module at the meters were considered that is, the internal and external module for single phase and three phase meters. The costs for the network components and also the operating cost of the system were also computed for each of this technology.

Deliverables

A report on the technical evaluation and comparative study carried out on the use of PLC and RF/Wireless technology for AMR.

Benefits

- Guideline/reference for Metering Services TNBD on implementing a fixed AMR network for ordinary power consumers (OPC).
- By implementing the hybrid system proposed, TNB owns and controls the complete communication network without relying on third party such as Telekom and Maxis for the data communication services.