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ENERGY-EFFICIENT AND LOWER POWER CONSUMPTION IN WIRELESS COMPUTING SYSTEM

MEDAPATI SATYA KANAKA NOOKA RAJESH[1], DAKINENI DURGAPRASAD[2]
[1]MTech Scholar, [2]Assistant Professor
[1,2]Department of Computer Science Technology, Baba Institute Of Technology And Sciences
Bakkannapalem, Madhurawada, Visakhapatnam, Andhra Pradesh -530048

Abstract: - The Internet has made it simple for people to communicate with others because it is inexpensive and convenient. The Internet shares the information is fast and seamless. Industrial wireless devices and networks are used for to send the data efficiently and effectively. In this intended paper "To Controls the sleep program, the number of links to minimize the power consumption and send the information without packet loss". This paper proposes Energy-Efficient and lower power consumption in Wireless Computing System. The lower power consumption is required in order to reduce the cost for factory operation and improving source privacy for performing the protocol message format.

Keyword: - Wireless Computing System, Low Power Consumption, Delay Aware Data Collection.

I. INTRODUCTION

Energy efficient resource operation has been considered as one of the important challenge of wireless sensor networks (WSNs) for their sensible applications and WSNs have become an important tool for gathering information in all areas of the human life. Sensors networks (WSNs) allow a system to be extended from one with basic functions to one that can receive and act on data about the situation it controls operates in. As more users log onto the network and request files and send things to be printed the network can start to slow down. There is only a restricted amount of bandwidth and the more information that is travelling around the network, the slower things become. Data usually exists as rather bulky files. However, networks cannot operate if computers put large amounts of data at the same time. A computer sending large quantities of data causes other computers to wait (increasing the frustration of the
Further users) while the information is being moved. This is not called "sharing"; it is called "dominating the network." There are two reasons why putting large quantity of data at one time slows down the network:

- Large amounts of data sent as one large unit tie up the network and make suitable interaction and communications impossible because one computer is flooding the line with data.
- The collision of retransmitting large units of data further increases network traffic.

These effects are reduced when the large data unitsare reformatted into lesser packages for bettermanagement of error improvement in transmission.This way, only a tiny section of data is affected, and,therefore, only a small quantity of data must beretransmitted, making it relatively easy to recoverfrom the error.One aspect to consider for energy efficiency is thecommunication subsystem as it is the main energyconsumer in WSNs. It can spend 70% of networkenergy. The energy Consumption can be minimizedefficiently through splitting the data packets intosmaller and seeking the correct network path.This paper, proposed efficient data communicationapproach to Controls the sleep schedule, the numberof links to minimize the power consumption and sendthe data without packet loss". Using proposedconcept, it satisfy the following requirements:

(i) highperformance in order to support real-time big datamining,
(ii) (ii) concurrent data collection from a lot ofserver,
(iii) high service manageable,
(iv) low systempower consumption for a low cost factory operation.

In this proposed paper mainly concentrate on Delay-Aware Wireless Computing System and efficientlysend data on network. The large data elements arereformatted into smaller packages for betterorganization of error correction in transmission.Finally, the sleep mode is used to reduce the systempower consumption and delay for data collection.

II. METHODOLOGY

Methodology is the theoretical analysis of efficientdata communication with lower power consumption.The following are the four modules involved in thedata sending on network efficiently.

1) Dataset Generation
   A. Automated
   B. Manual
2) System operation procedure
3) Evaluating the improvement in powerconsumption
4) Evaluating the improvement in delaysatisfaction ratio

III. VISUALIZED COMPUTING SYSTEM

In this section, we introduce our visualize computingsystem for industrial wireless computing networks.First, we explain the architecture of our visualizedcomputing system and its network topology andreduce the power consumption.

A. Architecture

In this paper, the system is connected to the server.The system process procedure has to two types ofdataset generation. First one is automated and secondone manual. The Automated is large dataset usingautomated query processing. It generates specified setof files like JPEG, zip, doc, txt, xlsx,rar, docx, PNG,xls, pdf, JPG. The Manual dataset generator isworking with file upload processing. It can uploadfiles like JPEG, zip, doc, txt, xlsx, rar, docx, PNG,xls, pdf, JPG which is in that computer.In System operation procedure splits the packets intosmaller and sends the packets on the network withoutdata loss. It calculates the ratio of servers in sleepstate and the degree of the servers in dynamic state ateach time slot t, (t) and hk(t)i, are dynamicallycontrolled in order to minimize the system powerconsumption while satisfying an acceptable internaldelay.

The characteristics of the sensor nodes have asignificant collision on its power consumption. Theusual design approach for especially low-powereddevices, such as sensor nodes, is to minimize thetypical current draw by spending as much occasion aspossible in a low-power consumption mode so-calledsleep mode. In the dynamic period, the deviceintensively draws current from its battery. After thedynamic period, the device returns into a sleepingmode.

The improved delay satisfaction ratio represents thedelays between automated dataset and manual datasetgeneration. In represent via graph and its will showthe improved data rate with lower powerconsumption.

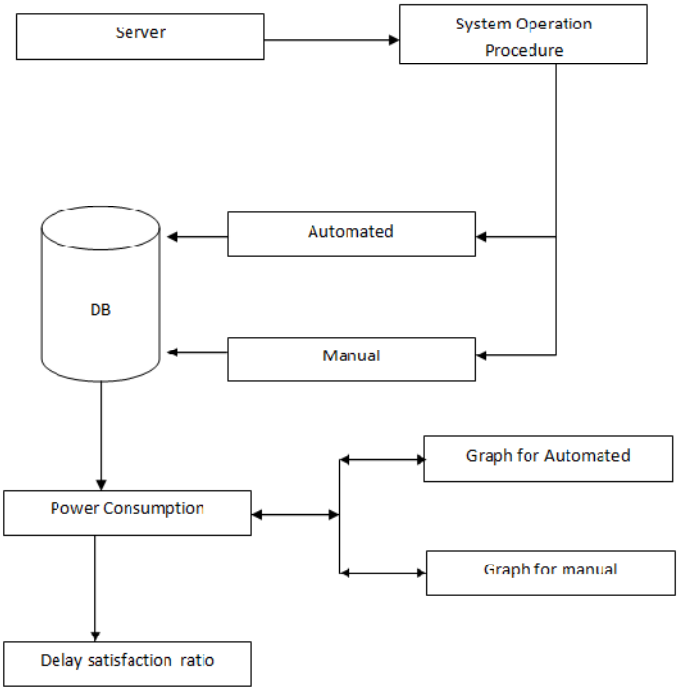

Fig 1.Architecture Diagram

IV. DATASET GENERATION

This module generates dataset. This module, itgenerates two types of dataset.

A. Automated

B. Manual

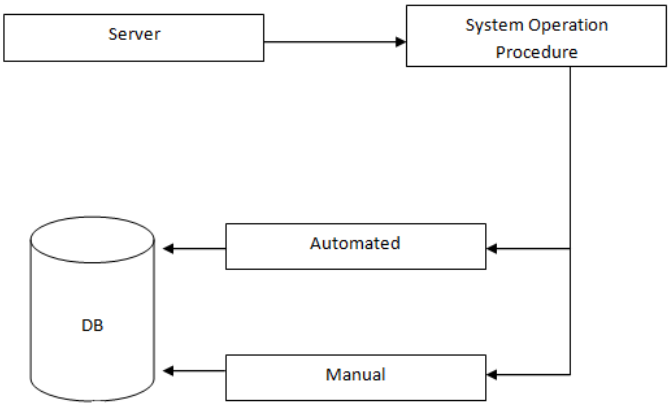

Fig 2.Two types of Data set Generation

A. Automated

First one is large dataset using automated queryprocessing. It generates following types of files like JPEG, zip, doc, txt, xlsx, rar, docx, PNG, xls, pdf,JPG.

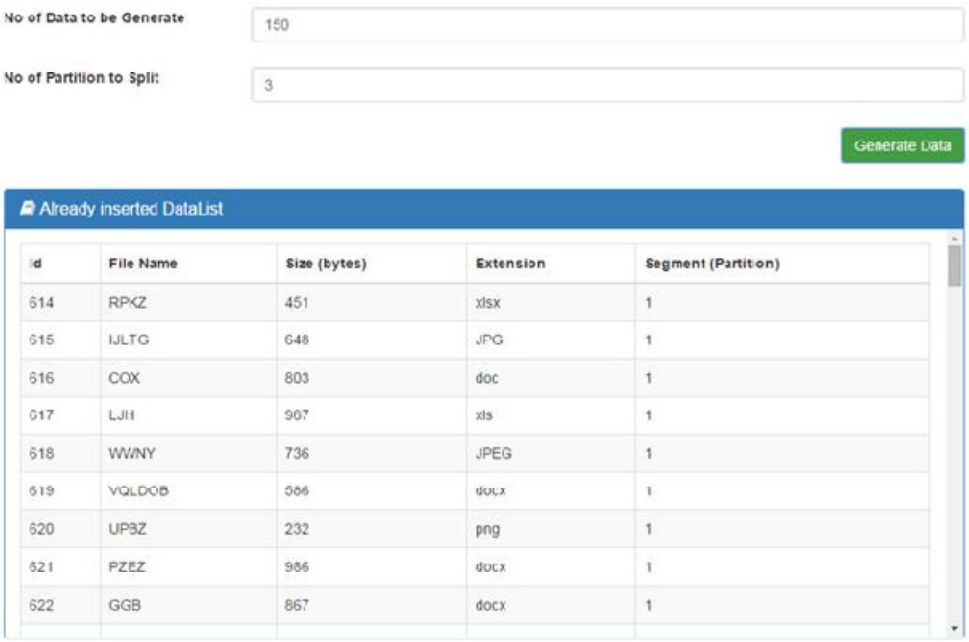

Fig 3.Automated Dataset

B. Manual

Second one is manual. The manual dataset generatoris working with file upload processing. It can uploadfiles like JPEG, zip, doc, txt, xlsx,rar, docx, PNG, xls,pdf, JPG which is in that computer.

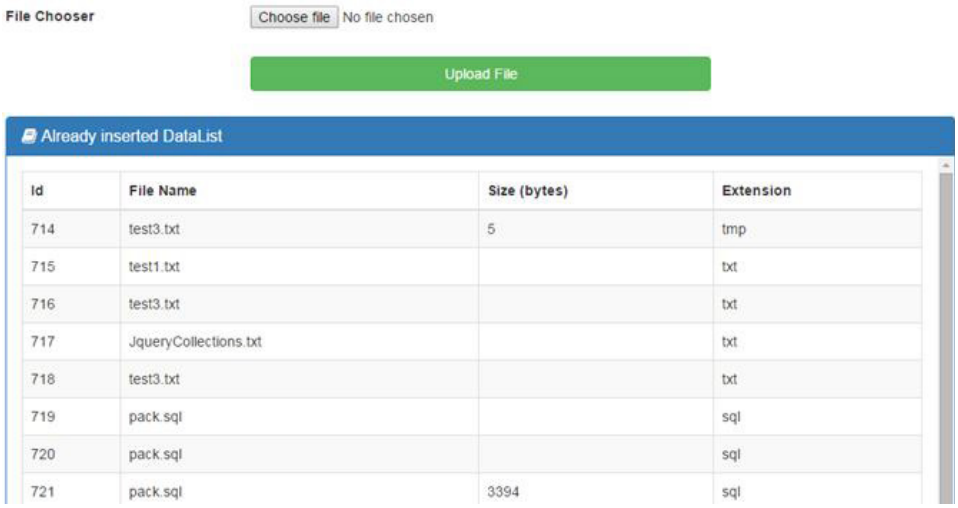

Fig 4.Manual Dataset

V. SYSTEM OPERATION PROCEDURE

In system operation procedures have two types graph,which shows the data sending rate and improved datapackets.It calculates the ratio of servers in sleep situation andthe degree of the servers in active state at each timeslot. It dynamically controlled in order to minimizethe system power utilization while satisfying anacceptable internal delay.

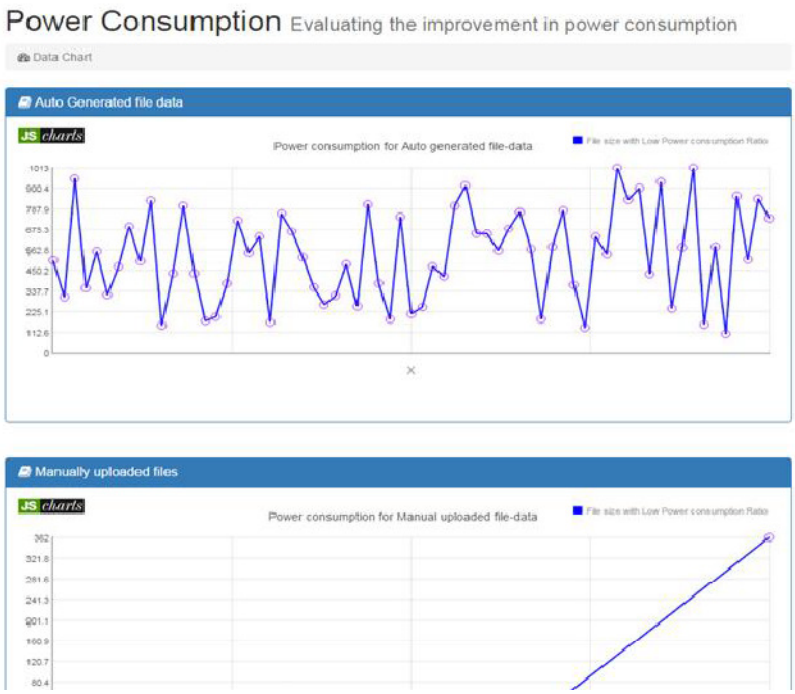

Fig 5.Power Consumption

VI. THE IMPROVEMENT IN DELAYSATISFACTION RATIO

The characteristics of the sensor nodes have asignificant impact on its power utilization. The usualdesign approach for ultra low-powered devices, suchas sensor nodes, is to minimize the average currentdraw by expenditure as much time as possible in alow-power consumption mode so-called sleep mode.In the active period, the device rigorously drawscurrent from its battery. After the active period, thedevice returns into a sleeping mode.

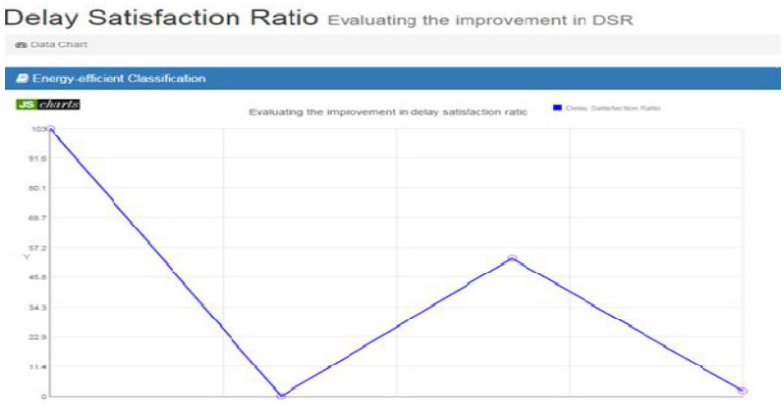

Fig 6.Delay Satisfaction Ratio

VII. CONCLUSION

In this paper, the proposed method is based onsending and receiving large files inside and externallyhave become an essential part of a company'scommunication system. Companies make use ofdifferent file sharing solutions for exchanging dataand make possible collaboration between customers,clients, employees and partners. Our proposedscheme controls the sleep schedules and networkconnectivity to reduce the system power consumptionwhile satisfying acceptable delays applications. Itappropriately selects the number of servers in sleepcondition and the degree of servers

in active state.The proposed method can improve both the systempower consumption, satisfaction ratio of delay andreduce the sleep states compared to other approaches.

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MEDAPATI SATYA KANAKA NOOKA RAJESH, is pursuing mtech in Department of Computer Science Technology, Baba Institute Of Technology And Sciences Bakkannapalem, Madhurawada, Visakhapatnam, Andhra Pradesh -530048.

DAKINENI DURGAPRASAD, CompltedB.Tech & M.Tech (M.Tech from Gitam University), present working as a Assistant Professor in Department of Computer Science Technology, Baba Institute Of Technology And Sciences Bakkannapalem, Madhurawada, Visakhapatnam, Andhra Pradesh and his experience is more than 10 yrs.

