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## APPLICATION OF SOVERIGN ROUTE DISCOVERY BASED ON SHORTEST ROUTE ENERGY LEVELS

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### Abstract:

The main purpose of this work is enhancing various routing methods in the process of networking and conventionally, delivery of data from one to other node is often stressed, this results delay in transmission of packets. The main problem is Network lifetime maximization in MANET.in existing system the routing energy (LEA) aware WDC (Wireless Distributed Computing) to network lifetime maximizing. Even though only master node is involved in dividing a task into sub-tasks and allocating these to the sub nodes to get results. Then the master node will send these collected results by the sub nodes to the destination node. In this work calculating the energy level, Hop count, STR (Shortest Tree Routing) of all routes available. Among all the routes the best one is picked from above all factors and data packets are transmitted. Node calculations are done by the coordinator and the minimum or optimum cost is set by the user initially RC4algorithm is used in encryption of packets

**Keywords:** S.T.R (Shortest Tree Routing), LEAWDC, RC4algorithm.

### Introduction

Now a day's communication is possible in everywhere because of wireless transmission and devices supporting it. From every place we can stay connected to any one using such transmission. Recently mobile computing has received attention very intensively.in such applications today we mostly require single hop connectivity. This is different from cellular networks since the cellular networks will consists of wireless transmission through base stations or else using access points in which the communication between two nodes(mobiles) will entirely depends on the wire strength and also fixed base stations a MANET which stands for mobile adhoc networks is also can be a better choice, it consist of a mobile nodes set(group) which operate without help of base stations and access points.in this transactions are done using antennas through wireless links due to some problems these cannot connect to the

network, as we do connect in mobile computing in which we use single hop but here in MANNETS we use multi hop

In this the data packets send are checked by various intermediate nodes in the process of reaching the required node.

So every node will act as a router in MANNET. So routing problem is one of the most important problem in

MANNET In this paper we present a plan to improving (maximizing) the lifetime of single hop Wireless distributive

computing networks .In this, any task will initiate from the master node with some time constraint and distributes the

task to its sub systems (nodes). As the master node manages the overall system, we can assume that it has given

external power or a large battery, and the sub nodes with limited power. As the residual energy levels of sub nodes is

limited, the lifetime of a network will depends on the communication and processing powers of the sub nodes

associated to the allocated sub-tasks quantity. So in order to improvise(maximize) the life time of a WDC we must

have a good interaction between the sub nodes of the processing and communication systems for allocating the tasks,

the time constraint should also be satisfied. To achieve this optimization in inter-layer we must perform the

optimization of cross layers by controlling the parameters in the processing and communication, these parameters are

associated with the application and physical layers.

### **Literature Survey:**

First the nodes are order on the energy levels then we will take care of the node path. The Proactive route algorithm is

used for finding the best path between the source node and destination node. Fast processing and peer processing will

lead to results yielding in generic [1]. Particle swarm genetic approach for localization and optimization.

Node health and environmental data are analysed to calculate the system performance the environmental data with

densities impossible previously can be calculated by the integration of WSNs. the sensor data is required for various

important things such estimating system operation network failure [2].

The network life time and the existence of the active nodes are strongly affected by the server power difficulties. We

can maximize the network life time of a network if we have enough energy sources and we have to store the

processing of sensor nodes.

Different approaches to the power management can efficiently use in the reduction of the sensor node energy

consumption. This paper introduces routing models proposed based on soft computing for WSNs which gradually

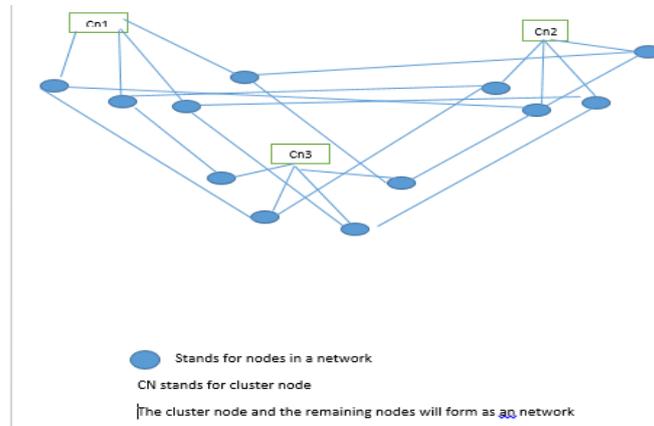
increase the lifetime [3]. Routing in wireless networks sensors depending on the soft computing paradigms

For getting good performance in OSLR protocol we use OPET simulator tools traffic of data is checked and surveyed

and analysis. [4] Performance and simulation based analysis of OSLR with OPNET

In our daily life the WSNs based automation systems [5] are very useful in saving and managing the consumption of the energy of the home appliances.

**System architecture:** The framework which is well known as system architecture of the proposed model is as follows:



### Example System Architecture

In this system architecture we use to find the shortest path based on the factors such as cost, energy levels and hop count

Modules:

The proposed system in this paper has 4 modules they are

Constructing nodes

Selection of cluster head

Selecting path based on STR

Transmitting data

Constructing nodes

In this concept, initially we have to construct a network consisting of n nodes, So that each node can transfer data to all other nodes of the network. Network is used by nodes to stay connected. Network stores entire node information such as Id of node etc..., the security in the node communication is also monitored by the network.

Selection of cluster head

This module is responsible for the functions such as, assigning f energy to every node and selection of the cluster head based on the in degree these two functions, are done by the network. Thus a cluster head is created consisting of a node group, after creating any node present in the network can make a request to cluster head for the purpose of the path selection. After this process is completed a source node can transmit data to the destination node.

### Selecting path based on STR

This module consisting of the various functions, when the source node requests cluster head for the selection of path. For effective transmission of data, cluster head calculates the energy for each and every node. For transmission although cluster head calculates the optimum cost, after calculating the energy of node and cost, the minimum hop count is calculated by using the STR protocol. In this way, best route for transmission of data is selected by the cluster head.

### Transmitting data

This module will perform the following functions, source node gets the efficient path from the cluster head after getting the efficient path the source node will send the data in the form of packets to the destination with the help of the neighbour depending on secure path. In this way a network will give a best path for routing by the selection of cluster head.

### Result analysis

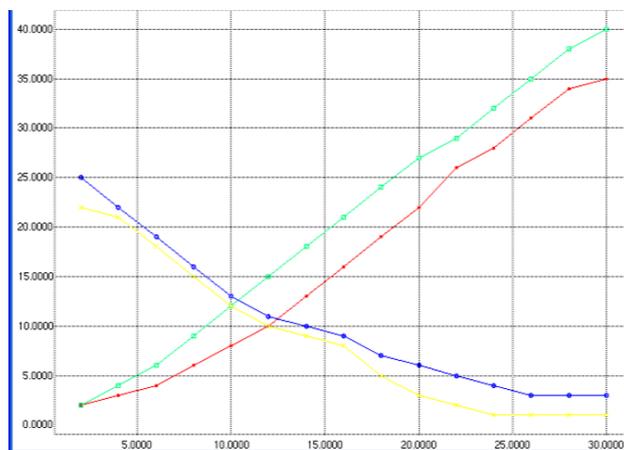
The result is measure in the terms such as hop count vs. time and energy levels vs. time and the performance can be known in a best way if and only if they can be represented graphically. Here the first graph is given for x axis in time and y axis in hop count

Hop count vs. time

Scale

X-axis 1cm = 5 units of time

Y-axis 1cm=5 units of hop count



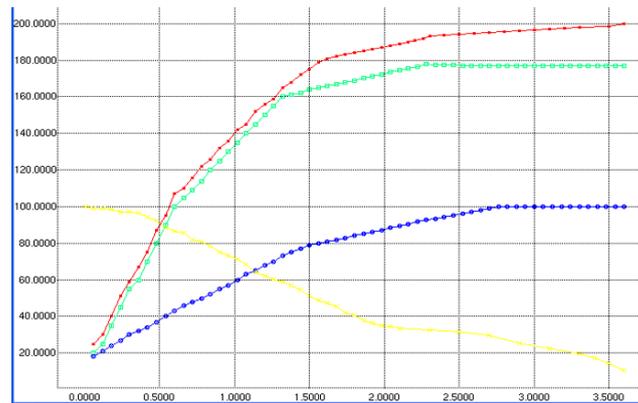
The next figure is between energy consumption and time

Energy consumption vs. time

Scale

X-axis 1cm=5 units of time

Y-axis 1 cm =5 units of energy consumption



## Conclusion

WDC (Wireless Distributed Computing), is a very important to maximize the sustainability of a network and also for interoperability in a network. Shortest Tree Routing is responsible for optimizing of the routing, routing is used for the calculation of the hop count, energy level and cost in all the routes available in a network.

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