A Study of Energy Efficiency Location based Routing Protocols in MANET

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Abstract— A Mobile Ad hoc Network (MANET) is a collection of mobile hosts that move in different location and mobility without the need to maintain connectivity with existing network infrastructure. If two mobile nodes are in transmission range with each other then they can communicate with each other directly otherwise the intermediate nodes in between have to forward the packets for them. It means every intermediate mobile node has to function as a router to forward the packets for others. Thus, routing is an essential operation for the MANET. Through routing procedure the number of mobile nodes in network are deliver the data in network. There are many routing protocols are proposed for mobile ad network and each protocol having a different category and function. The AODV (Ad hoc On demand Distance Vector) routing is established the connection in on demand manner means if the next node is available then in that case the sender has forward request to it and it happen till the sender is not found the destination. Energy is one of the crucial limited resources in Mobile Ad hoc Network. Nodes are in network are working in the presence of limited battery power also called energy or power then energy efficient routing is necessary for reducing energy consumption. Efficient energy routing schemes can really reduce energy consumption and extends the lifetime of the networks. Location aware protocol like DREAM is reduces the energy consumption because due to the awareness of location less number of routing packets are flooded in the network by that energy consumption are reduces. In this paper most of the most of the researchers are proposed solution of energy saving of nodes by efficient communication through them. The main aim of this research is to focus on the previous researches that had been done in field of location aware and energy efficient routing in MANET.

Key words: - MANET, Location aware, Energy, Dream, Routing.

I. INTRODUCTION

Mobile Ad Hoc Networks (MANETs) [1] are maintaining the temporary network for communicating in network among the mobile stations. MANET is the new rising technologies which facilitate users to communicate without any physical infrastructure in spite of their geographical location, by that it is sometimes referred to as an infrastructure less network. The propagation of cheaper, small and more commanding devices make MANET a best ever growing network. An ad-hoc network is self systematize and adaptive. Nodes in mobile ad hoc network have to be able to detect the presence of other nodes by sensing and perform necessary set up to facilitate communication and sharing of data and service. Ad hoc network permit to the mobile nodes to maintain connections to the network as well as easily adding and remove mobile nodes to and from the network. Due to random mobility of nodes, the network topology may change rapidly and unpredictably with respect to time. The network is decentralized, where in network and message delivery must be executed by the nodes themselves. MANET [2] has become one of the most prevalent areas of research in the recent years because of the challenges. Efficient routing [3] is a problem in a dynamic environment where the topology changes rapidly.

While the shortest path from a source to a destination based on a position of source to destination in a dynamic network is usually the best possible route, this concept is difficult to extend in MANET. The set of applications for MANETs is dissimilar, ranging from across-the-board, mobile in nature, highly dynamic and small that are constrained by power sources. Besides the bequest applications [2] that move from traditional infrastructure environment into the ad hoc context, an impressive arrangement of new services that can and will be generated for the new environment. MANET is more at risk than wired network due to mobile nodes, intimidation from compromised nodes inside the network, limited substantial security, vibrant topology, scalability and lack of centralized organization.

Mobile nodes are countenance with energy constraints [4] and as such, power saving is a major factor to consider in implementation of MANET. Furthermore, radio range or sensing range of nodes limitations, channel utilization and network size are considered. These factors bound the ability of nodes in a MANET to communicate directly between the source and destination. The number of nodes increases in the network by that the communication between the source to intermediate nodes are increases, if the destination are not in radio range. Most routing protocols rely on their neighbors to route traffic and the increase in the number of neighbors causes even more traffic in the network due to multiplication of broadcast traffic. Following are the types of energy consumption that have been identified:

1) Energy makes use of while sending a packet.
2) Energy makes use of while receiving a packet.
3) Energy makes use of while in idle mode.

Energy utilized while in sleep mode which occurs when the wireless interface of the Mobile node is turned off. It should be noted that the energy makes use of during sending a packet is the largest source of energy consumption of all modes. This is followed by the energy makes use of during receiving a packet. Besides that while in idle mode the node does not actually handle data communication operation, it was found that, in the wireless interface consumes a considerable amount of energy even so. This

amount approaches the amount that is consumed in the receive operation. Idle energy is a negligible energy that should be eliminated or reduced through energy-efficient schemes. But not possible nodes are always being a part of communication.

II. Overview of Routing Protocols

Routing protocols [4, 5] have been developed for ad hoc networks and have been classified into two main categories Proactive or (table-driven) protocols, Reactive (on-demand) protocols and Hybrid routing protocol. In a proactive routing protocol, nodes periodically exchange routing information with other nodes in an attempt to have each node always know a current route to all destinations. In a reactive protocol, nodes exchange routing information only when needed, with a node attempting to discover a route to some destination only when it has a packet to send to that destination. Ad hoc network routing protocols that are hybrid have combination of table-driven and on-demand mechanisms.

AODV is a reactive routing protocol [5] that does not lie on active paths neither maintains any routing information nor participates in any periodic routing table exchanges. Further, the nodes do not have to discover and maintain a route to another node until the two needs to communicate, unless former node is offering its services as an intermediate forwarding station to maintain connectivity between other nodes [5] are shown in fig. 1.

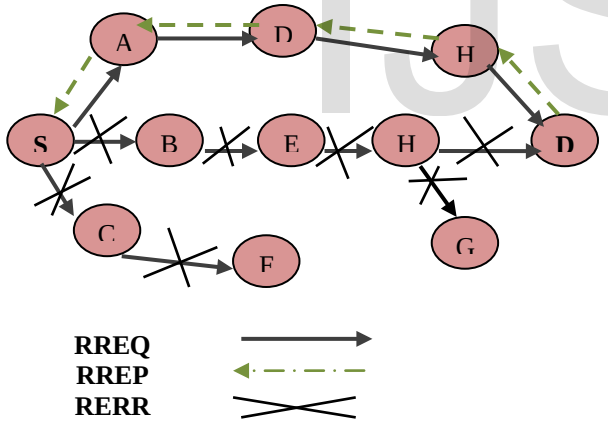

Fig.1 Connection Establishment Procedure of AODV Protocol

Route Discovery process is initiated by broadcasting a Route Request (RREQ) packet to its neighbors. Each neighboring node either responds the RREQ by sending a Route Reply (RREP) back to the source node or rebroadcasts the RREQ to its own neighbors after increasing the hop count field. If a node cannot respond by RREP, it keeps track of the routing information in order to implement the reverse path setup or forward path setup.

The destination sequence number specifies the freshness of a route to the destination before it can be accepted by the source node. Eventually, a RREQ will arrive to node that possesses a fresh route to the destination. If the intermediate node has a route entry for the desired destination, it determines whether the route is fresh by comparing the destination sequence number in its route table entry with the destination sequence number in the RREQ received. The intermediate node can use its recorded route to respond to the RREQ by a RREP packet, only if, the RREQ's sequence number for the destination is greater than the recorded by the intermediate node. Instead, the intermediate node rebroadcasts the RREQ packet. If a node receives more than one RREPs, it updates its routing information and propagates the RREP only if RREP contains either a greater sequence number with a smaller hop count. It restrains all other RREPs it receives. The source node starts the data transmission as soon as it receives the first RREP, and then later updates its routing information of better route to the destination node. Each route table entry contains the following information:

- Destination node
- Next hop
- Number of hops
- Destination sequence number
- Active neighbors for the route
- Expiration timer for the route table entry

The route discovery process is reinitiated to establish a new route to the destination node, if the source node moves in an active session. As the link is broken and node receives a notification, and Route Error (RERR) control packet is being sent to all the nodes that uses this broken link for further communication. And then, the source node restarts the discovery process.

destination sequence number than the previous RREP, or same destination Location Based Protocols

It is considered substantially better from an energetic point of view due to the use of solely local information in the routing process. As a result of very little routing information being needed, no energy is spent on route discovery, queries or replies, node memory requirements are decreased and traffic overhead and computation time are considerably reduced.

In location based routing, the process is localized and distributed so that all nodes involved in the routing process contribute to making routing decisions by using localization methods and computing the best forwarding options. The some of the location based routing protocols are mentioned are as follows:-

Location-Aided Routing (LAR) protocol is an approach that decreases overhead of route discovery by utilizing location information of mobile hosts. Such location information may be obtained using the global positioning system (GPS) [7, 8]. LAR uses two flooding regions, the forwarded region and the expected region. LAR protocol uses

location information to reduce the search space for a desired route. Limiting the search space results in fewer route discover of messages [7, 9]. When a source node wants to send data packets to a destination, the source node first should get the position of the destination mobile node by contacting a location service which is responsible of mobile nodes positions. This causes a connection and tracking problems [8, 10]. Two different LAR algorithms have been presented in LAR scheme 1 and LAR scheme 2. LAR scheme 1 uses expected location of the destination (so-called expected zone) at the time of route discovery in order to determine the request zone. The request zone used in LAR scheme 1 is the smallest rectangle including current location of the source and the expected zone for the destination. The sides of the rectangular request zone are parallel to the X and Y axes. When a source needs a route discovery phase for a destination, it includes the four corners of the request zone with the route request message transmitted. Any intermediate nodes receiving the route request then make a decision whether to forward it or not, by using this explicitly specified request zone. Note that the request zone in the basic LAR scheme 1 is not modified by any intermediate nodes.

On the other hand, LAR scheme 2 uses distance from the previous location of the destination as a parameter for defining the request zone. For example any intermediate node J receiving the route request forwards it if J is closer to or not much farther from the destination's previous location than node I transmitting the request packet to J. Therefore, the implicit request zone of LAR scheme 2 becomes adapted as the route request packet is propagated to various nodes.

DREAM [6] is a location-based routing protocol work for Ad-hoc networks. It stands for Distance Routing Effect Algorithm for Mobility. Here in this comparison distance and mobility plays an important role, so in our named as Distance Routing Effect Algorithm for Mobility (DREAM) protocol for ad hoc networks. DREAM protocols have some desirable properties of providing bandwidth and energy efficiency. We can say that with respect to existing protocols, in DREAM more bandwidth and energy (required for transmission in each mobile node) can be used for the transmission of data messages. Most importantly:-

1) The rate of control message generation is determined and optimized according to the mobility rate of each node individually.

2) Due to the "distance effect" the number of hops (radius from the moving node) it will be allowed to travel in the network before being discarded will only depend on the relative (geographic) distance between the moving node and the location tables being updated.

3) DREAM protocol provide loop-free path, since each data message propagates away from its source in a specific direction. DREAM protocol is also adaptive to mobility, since the frequency with which the location information is disseminated depends on the mobility rate.

III. Problem Identification

The limited capacity of working through mobile nodes is the major problem in Ad hoc network. Each and every node in network have a limited resource of communication i.e. energy. In Ad hoc network the energy is the limited resource because there is a no source is available in network by that the nodes are regain their energy. It means if the node is lost their energy then the battery replacement is only the option to retain the node in network with full capability and the second one option is to utilize the energy of nodes efficiently. The meaning of efficient use of battery power is to reduce the possibility of packet loss and retransmission in network. The routing protocol has no capability to reduces the motion of mobile nodes that is the major region of link breakage and energy wastage. The energy efficient routing scheme is utilizes the nodes power in communication. The main drawback in ad hoc network is to forming the dynamic connection between sender and receiver and also the nodes in network are not attentive about the location information of mobile nodes. If the nodes are known the location then the flooding of route request and route reply are minimizes in network because the senders are only flood the routing packets in the direction were the destination are located. It means the problem of most of the energy consumed in connection establishment the major issue that will we solved in this research through do location based routing scheme. To avoid the manual programming of the location in all nodes within a network, as the means of obtaining the location information, sensor nodes can either be equipped with GPS or use a location discovery algorithm based on cellular networks for distance measurements. However, all localization methods have drawbacks like manual programming of nodes is sometimes difficult or impossible in remote areas or for large networks, the GPS increases device costs and power consumption and is less accurate indoors or where there is no direct line of sight between nodes and satellites, cellular networks require nodes to be in the range of the bases station which is not always made possible.

IV. Motivation

In mobile ad hoc network the nodes are forming the temporary connection in dynamic environment. The energy is the limited resource in mobile nodes to communicate with each other. Most of the energy of mobile in ad hoc network is wasted to in flooding of routing packets because it does not know the location of destination. Now in this paper main aim is to focus on these problems. Nodes within an ad hoc network generally rely on batteries (or exhaustive energy sources) for power. In an Ad hoc network, mobile nodes come together for a period of time to exchange information i.e.

depending on the mobility speed of mobile nodes. While exchanging information, the nodes may continue to move, and so the network must be prepared to adapt continually to establish routes among themselves without any outside support Communication between the nodes is one of the main sources of energy consumption. Since the nodes are rapidly consume node energy in network by that the performance improvement in battery power is rather slow currently, and in the absence of breakthroughs in this field. Energy efficient location based routing has to be taken to achieve the goal of getting more performance out of the currently available battery resources. The location based routing is beneficial for identify the location of nodes in the network with respect to any other node in network. The locations unveil information in network aware about the other nodes in network for the position and mobility scheme in network. Location aware routing can theoretically be performed based solely on location information of nodes, which can be obtained via LAR location based protocol. The all sender nodes in network have to be aware of its own position, the position of nodes within its range of communication (neighbour nodes) and of the receivers. Therefore, the required node memory is minimal reducing bandwidth consumption and conserving energy. Nodes use broadcasting (on demand or periodically) to let their one hop neighbors know their location, but route discovery flooding and position dispersion are not needed. So location aware routing results in minimal overhead. Also, because of the location forwarding process through location aware protocol, the network responds more rapidly, avoiding delays and overall latency.

The purposed scheme presented in related articles reveal particular routing requirements which can be successfully fulfilled by a number of protocols. However, the differences in these routing approaches make some protocols more recommendable than others. One must be able to choose the most suitable option from a vast number of geographic routing possibilities, but this poses a lot of difficulties. Therefore, this examination comes as an assist to those interested in location based routing.

V. Literature Survey

There are various previous work have been done in the field of Efficient energy, for the improvement of routing with energy efficient techniques.

In this paper [11] proposed a new protocol that consider in both areas of routing and energy. At first, propose a more efficient routing method which minimizes the spread of unnecessary control messages. Secondly, an energy aware method is proposed to select proper transmission power by the distance between nodes. This technique is made to provide efficient routing by minimizing the flooding of unnecessary control message, considering limited energy of mobile node and using appropriate transfer power to communication. And finally, we make a new function to select next hop which considers both of distance and energy. The result of simulation shows that performance of lifetime is improved about 12 % compared with LAR.

The proposed scheme [12] controls the transmission power of a node according to the distance between the nodes. It also includes energy information on route request packet and selects the energy efficient path to route data packets. LAR1 protocol uses location information of a node for setting the path from source to destination. We take this feature of LAR1 as a key factor in designing of variable range technique. The main aim is to design a technique of variable transmission power control to reduce overall energy consumption of the network. RREQ in LAR1 protocol consists of source location and destination location information. We have used this information to calculate the distance between the nodes. We also embed the energy factor of the node in RREQ packet for selection of energy efficient path.

The scheme [13] gives the concept of local connectivity technique and preventive route reconfiguration on the basis of the current status of the nodes are being proposed that attempts to improve the performance and reliability in terms of reduced overhead, power and bandwidth requirement. These techniques also ensure good reduction in latency in case of link breakages and prevention of the network from splitting. The Energy Efficient Routing Multicast Protocol for MANET with Minimum Control Overhead is compared with other shared tree multicast protocol i.e. MAODV. Comparison was made on various parameters like Energy Consumption, Packet Delivery Ratio, Delay, and Throughput.

EELAR [14] utilizes location information of mobile nodes with the goal of decreasing routing-related overhead in mobile and ad hoc networks. It uses location information of the mobile nodes to limit the search for a new route to a smaller area of the ad hoc network which results in a significant reduction in the number of routing messages and therefore the energy consumption of the mobile nodes batteries is decreased significantly.

This paper [15] presents the results of simulation done in identifying suitable ad hoc routing protocol that can be used for the target mobile grid application. The simulation comparing three ad hoc routing protocols named DSDV, DSR and AODV. In this paper, we mainly target the performance comparison based on packet delivery fraction and normalized routing load. In the future, extensive complex simulations could be carried out in gain a more in-depth performance analysis of the ad hoc routing protocols. This would include delay of data packet delivery and performance comparison on location-based ad hoc routing protocols.

A mobile ad hoc network (MANET) [16] consists of autonomous mobile nodes, each of which communicates directly with the nodes within its wireless range or indirectly with other nodes in a network. In order to facilitate secure and

reliable communication within a MANET, an efficient routing protocol is required to discover routes between mobile nodes. The field of MNAETs is rapidly growing due to the many advantages and different application areas. Energy efficiency and security are some challenges faced in MANETs, especially in designing a routing protocol. .

In paper [17] presents the multipath routing protocol GMR with the group mobility model. The GMR protocol adopts intra-group routing and inter-group routing to adapt two situations: within a group and among groups. Intra-group routing uses a proactive method, which is suitable for the intra-group where nodes have the same mobile pattern. Intergroup routing uses a reactive method with the zoning method, which is adaptive to the dynamic topology, and limits the region of broadcasting RREQ packets. Thus, the GMR protocol has good scalability in large and dense MANET.

This paper proposes a new MANET routing algorithm [18] that includes quadrant based opportunistic routing, an intelligent energy matrix and energy status request messages with packet receipt acknowledgement notification. The proposed algorithm uses an intelligent energy matrix that creates a look up table including the key characteristics: reputation value, residual battery level and energy consumption. The proposed algorithm balances the traffic uniformly across four intermediate nodes in any desired quadrant. The simulation results presented in this paper demonstrate that due to the inclusion of the energy matrix and quadrant based routing, the number of broadcast messages decreases, reducing data flooding, providing improved channel efficiency and improves bandwidth utilization. Load balancing also increases the lifetime of intermediate nodes which provides improved route stability.

In this paper, we compare the performance of different protocols for ad hoc networks [19] Multipath routing based on Fresnel zone routing (FZR), and Energy aware Node Disjoint Multipath Routing (ENDMR) protocol. Simulation results show that, with the proposed network coding in ad hoc network multipath routing protocol (NC-MR), packet delivery ratio, network lifetime and packet loss can be improved in most of cases. It is an available approach to multipath routing decision.

It constructs a shared bi-directional multicast tree [20] for its routing operations rather than a mesh, which helps in achieving more efficient multicast delivery. The algorithm uses the concept of small overlapped zones around each node for proactive topology maintenance within the zone. Protocol depends on the location information obtained using a distributed location service, which effectively reduces the overheads for route searching and shared multicast tree maintenance. In this paper a new technique of local connectivity management is being proposed that attempts to improve the performance and reliability. It employs a preventive route reconfiguration to avoid the latency in case of link breakages and to prevent the network from splitting.

Location Prediction Based Routing Protocol (LPBR) [21] does not require the periodic broadcast of beacons in the neighborhood and it assumes nodes are position-aware and the clocks across all nodes are synchronized. In LPBR each node forwards the Route-Request packet after incorporating all the relevant parameters. The destination node collects the location update vector information of all the nodes in the network from the RREQ packets and sends a Route-Reply packet to the source on the minimum hop. The source node in LPBR uses the route learnt through the latest LPBR-RREP packet to send the data packets. If an intermediate node could not forward the LPBR-RREP packet, it sends a LPBR-RREP-ERROR packet to the destination informing the failure. The destination node discards all the relevant information and the source initiates the next flooding based route discovery after timing out for the LPBRRREP packet.

Location Aided Knowledge Extraction Routing Protocol [22] uses an on demand request-reply mechanism in route discovery. LAKER [22] gradually discovers knowledge of topological characteristics such as population density distribution of the network. It is based on a set of guiding routes, which includes a chain of important positions between a pair of source and destination locations. LAKER is especially suitable for mobility models where nodes are not uniformly distributed.

In this paper [23] proposed an energy efficient route discovery process for AODV based on ERS. Our approach saves energy of the nodes by avoiding the redundant rebroadcasting of the route request packets. The relaying status of the node is decided based on the broadcasting of its RREQ packets by its neighbours. And it helps in reducing routing overhead incurred during the route discovery process. This E2AODV reduces energy consumption by 75-85% compared to AODV. It also reduces routing overhead of around 65-75% and there by reduces 60-70% collisions.

In this paper [24] proposed an improved routing protocol considering position and energy in mobile ad hoc networks is suggested. The suggested routing protocol adapts the continuous mobility by reflecting the position and energy of nodes, improves the safety of the route, and extends the node life by making the balanced energy consumption considering residual energy of nodes. In this paper, to compare performances among protocols, the network simulator (NS-2) is used. According to the results from the experiments using NS-2, the routing protocol (PE-AODV) suggested in this paper showed the improvement compared to the precious protocols by improving the holding time of the route by more than 2.5 times compared to the existing protocols, and reducing the numbers of nodes that spent all the energy by maximum of 54%.

Greedy Perimeter Stateless Routing (GPSR) proposed in [25] is a location based routing protocol that works in two modes: greedy mode and perimeter mode. In greedy mode, each node forwards the packet to the neighbor closest to the destination. When greedy forwarding is not possible, the packet switches to perimeter mode. Greedy routing fails, whenever dead-end problem is encountered. In Perimeter routing also known as face routing, the packets are routed around dead-ends until nodes closer to the destination are found. The drawback of this approach is reduced network lifetime. As the nodes closer to the destination are always chosen, the result is an uneven distribution of traffic in the network. As residual energy of the node and the link quality are not considered in routing, the packet delivery ratio is very much decreased.

Geographic and Energy Aware Routing (GEAR) protocol proposed in [26] uses energy and geographical information of nodes for neighbor selection through which the packet are routed towards the destination region. This approach results in high packet overhead and is not implemented in realistic environment.

In [27] another kind of geographic routing known as Geo casting is proposed which combines multicast with geographical routing. In this approach, the packets are delivered to nodes within a certain geographic area.

In [28] Geocasting is an important communication paradigm in wireless sensor networks, as in some applications the objective is to communicate data to nodes that are within a certain region. As the number of control overheads involved is more there is high power consumption.

In [29] An Energy Aware Greedy Routing (EAGR) protocol proposed makes the routing decisions based on node's residual energy. It is assumed that the geographic location and energy levels of all nodes including the destination nodes are known. The distance between the neighboring node and destination is computed. The average of all these distance is calculated. The neighboring node with maximum energy is selected as the forwarding neighbor node, provided its distance is less than or equal to the average distance. The packet overhead factor is increased in this approach as all neighbors information needs to be maintained.

In all the above protocols the real-time implementation issues are not considered. However few protocols [30] have been proposed that deliver the messages in the network based on their deadline. Though these protocols reduced the communications delay involved in message transfer by dynamically varying the transmission power, it has not optimized the power utility in the network.

In [31] DSR (Dynamic Source Routing) and AODV suffer from a huge amount of control overhead for route setup and maintenance due to the frequent topology changes and they typically depend on flooding for route discovery or link state updates, which limit their scalability and energy efficiency. In sensor networks where thousands of nodes communicate with each other, broadcast storms may result in significant power consumption. On the other hand, geographic routing protocols [32] require only local information and hence are more suitable for wireless sensor networks. As only the location information of their direct neighbors are required to forward packets the amount of memory and bandwidth utilization is very much minimized.

Expected Outcome

In future we measure the performance of location based AODV with energy and applying energy threshold scheme on it and compare the results with normal energy based AODV routing protocol. If the performance of energy threshold based location aware routing protocol is better than existing energy based AODV then it definitely reduces energy consumption and enhances network life time. In simulation we will measure the performance of Energy based location protocol like LAR with AODV routing protocol and applying energy efficient scheme on it and compare the results with normal energy based AODV routing protocol. If the performance of energy threshold based location aware routing protocol is better than existing energy based AODV then it definitely reduces energy consumption and enhances network life time. The proposed scheme provide efficient communication in the environment of MANET in 802.11 technology, so this work efficient apply to MANET network for enhance energy utilization and increases the performance of the Network, that work easily adapted in MANET and increases the radio range of the network. The whole simulation steps of proposed LAR with AODV routing are mentioned in figure 2. This figure represents that first to create the TCL (Tool Command Language) for NS-2 simulator. If the TCL script is simulated with the module of LAR then in that case the two main output files are generated i.e. NAM file and Trace file.NAM is a very good visualization tool that visualizes the packets as they propagate through the network. An overview of how a simulation is done in ns is shown in Figure 2

NAM trace is records simulation detail in a text file, and uses the text file the play back the simulation using animation. NAM trace is activated by the command "$ns namtrace-all $file", where ns is the Simulator handle and file is a handle associated with the file (e.g., out.nam in the above example) which stores the NAM trace information. After obtaining a NAM trace file, the animation can be initiated directly at the command prompt through the following command

>>nam filename.nam

Many visualization features are available in NAM. These features are for example animating colures packet flows, dragging and dropping nodes (positioning), labelling nodes at a specified instant, shaping the nodes, colouring a specific link, and monitoring a queue.

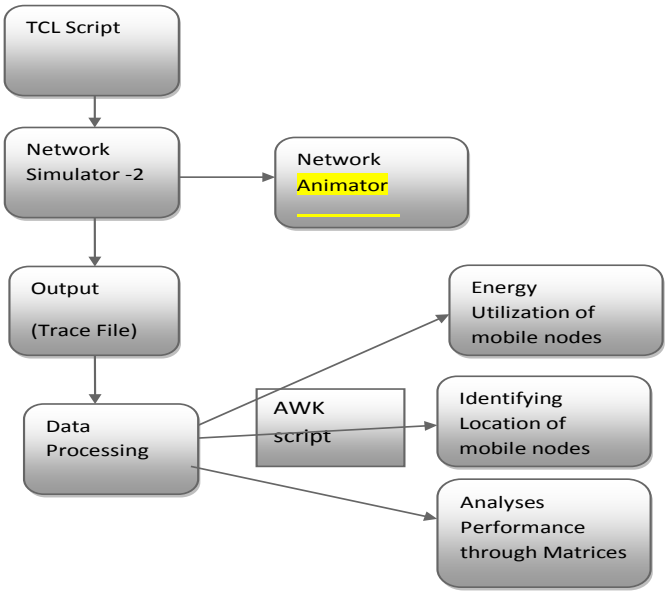

Fig.2 Simulation Steps to estimate the performance of proposed LAR routing.

In trace file the whole information is present about the network like which node is the sender and who is their receiver, node id, node location, packet send receive and drop, packet type etc. it means the trace file is the huge data base of network information that is gathered during the time of simulation. Now if measure the performance of network then the awk (abstract window Toolkit) scripting is designed in C that is grasp the particular information of the performance matrices. The data processing has been done through awk script that provides the information about location of nodes and network performance in the presence of LAR with energy.

IV. Conclusion

Mobile Ad hoc networks are generally more susceptible to fixed or hardwired networks in term of battery energy. In general most of the schemes lack with practical implementation. who have Moreover, those been implemented are limited to a particular environment. Lack of the studies about these schemes is also an issue. Apart from some of the main schemes existing literature are silent about most of the schemes discussed in this paper. This paper has center of attention on different energy based concepts of MANET that based on energy consumption and location based energy efficient routing, that can help to observe the usefulness of different research concepts. More than ever when energy consumption has a major factor of concern for MANET, we need to study a lot of issues and considerations based on energy consumption and location based routing. Proposed different efficient energy routing schemes can greatly reduce energy consumption and extends the lifetime of the networks. The previous techniques is measures the network performance on the basis of the work that has been done in particular research with different performance matrices. The previous scheme having some draw backs like not shown the location table and energy consumption and utilization in commutation.

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