

**AN EFFECTIVE MEASURE TOWARDS MANAGING OF REDUNDANCY
TOWARDS RESPONDING USER QUERIES****Juvvadi Krishna Chaitanya¹, Dr.Vaka Murali Mohan²**¹M.Tech Student, Dept of CSE, TRR College of Engineering, Hyderabad, T.S, India²Professor, Dept of CSE, TRR College of Engineering, Hyderabad, T.S, India**ABSTRACT:**

A heterogeneous wireless sensor network includes quite a lot of sensor types containing different sensing abilities. The routing procedure, which selects a variety of ways to suggest information in the middle of source as well as destination nodes, describes Multipath routing. All the recent studies, in contrast, mostly ignored the steadiness among quality of service gain as well as energy consumption which can adversely cut down the system existence. In our work we make usage of clustering procedure to decrease the energy consumption by the nodes to forward data towards the base station. We recommend redundancy management concerning heterogeneous wireless sensor networks where we make use of multipath routing to respond user queries in presence of untrustworthy and malevolent nodes which might cause packet loss within the network. The key perception of redundancy management is to accomplish the steadiness between energy consumption as well as gain in reliability, timeliness all along with the security to exploit the system useful lifetime.

Keywords: Heterogeneous wireless sensor network, Redundancy management, Multipath routing, Clustering, Quality of service.

1. INTRODUCTION:

Lots of wireless sensor networks are organized at the setting where the energy replenishment is extremely difficult but it is not impracticable. In wireless networks there are restricted resources which are not only employed to assure the requirements of quality of service but moreover they have to be useful to augment system lifetime with least amount of energy expenditure [1]. Because of limited resources, a sensor network must not just assure the application particular needs of quality of service for instance dependability, timeliness as well as security, but moreover reduce energy expenditure to extend the system functional lifetime. In literature trade-off connecting energy consumption against reliability gain with objective to make the most of the wireless system duration has been well searched. On the other hand, no previous work exists to consider trade-off in presence of malevolent node thus our aim is to work out the problem of balance among energy consumption as well as quality of service necessity to offer consistency gain with the objective to maximize lifetime of wireless system. On the other hand, in literature no work exists to consider the trade-off in occurrence of malicious node which is

accountable for packet loss moreover which are destructive to the network [2][3]. Clustering is one of the most excellent solutions to attain the scalability, consistency as well as energy conservation in wireless sensor network. Recent studies suggest that usage of heterogeneous nodes can moreover improve performance in enhanced way and extend the system life span in heterogeneous wireless sensor networks. In our work we suggest redundancy management concerning heterogeneous wireless sensor networks where we make use of multipath routing to respond user queries in presence of untrustworthy and malevolent nodes which might cause packet loss within the network.

2. METHODOLOGY:

While in the literature there are numeral techniques of intrusion detection for wireless networks, however the issue is how often the intrusion detection has to be invoked to take away malicious node from system so that we can advance system useful duration. A heterogeneous wireless sensor network consists of several types of sensors containing different sensing abilities. We have believed two types of sensor nodes

such as cluster head and an additional is sensor node. Cluster heads are more advanced than sensor nodes in consideration of energy in addition to computational resources. We use heterogeneous network in which every node includes additional amount of resources. Since most previous research were fixed on usage of multipath routing to get better reliability, some consideration has been paid to use multipath routing to endure insider attacks. All the modern studies, on the other hand, mainly ignored the steadiness among quality of service gain as well as energy consumption which can adversely cut down the system lifetime. Multipath Routing is a routing process, which select a variety of ways to suggest information in the middle of source as well as destination nodes. Multipath routing schemes are utilized to prefer the finest path in the network. In our work we address the redundancy management concerning multiple routing within heterogeneous wireless sensor networks to tolerate intrusions which are accountable for packet loss as well as jamming attack [4]. We have considered redundancy management with reference to multipath routes which are based on trust as well as energy values and it is employed for

intrusion detection, and to maximize system existence of a heterogeneous wireless sensor network in presence of unreliable as well as malevolent nodes. The key perception of our redundancy management is to attain the stability between energy consumption as well as gain in reliability, timeliness all along with the security to exploit the system useful lifetime.

3. AN OVERVIEW OF PROPOSED METHODOLOGY:

In Proposed scheme we address proficient redundancy management concerning a clustered heterogeneous wireless sensor networks to make the most of system lifetime operation in presence of undependable and malevolent nodes which are responsible for packet loss. In our work we have considered redundancy management concerning multipath routes which are based on trust as well as energy values and it is employed for intrusion detection, and to maximize system existence of a heterogeneous wireless sensor network in presence of unreliable as well as malevolent nodes [5]. In recent times, challenges of research within the system of wireless networks are coping with low power communication. Modern research

suggests that usage of heterogeneous nodes can moreover improve performance in enhanced way and extend the system life span in heterogeneous wireless sensor networks. In our work we are using clustering to decrease the energy consumption by the nodes to forward data towards the base station. We address trade-off issue connecting energy consumption with quality of service requirement to gain in consistency and appropriateness in addition to to augment security in order that we can maximize the duration of a clustered heterogeneous sensor network. Cluster is the group concerning Nodes and these are grouped to structure cluster. Routing procedures in this regard plays an important role in efficient energy consumption. In sending of data from sensor nodes to base station there is need to pick a particular route and have to be a shortest route, which minimizes energy consumption is necessary. Therefore we make use of clustering approach to reduce the energy consumption. In our work we make use of symmetric encryption method to defend confidentiality. In our work we make a decision of usage of number of paths in order to endure residual compromised nodes that survive our intrusion detection system, so as to augment

system lifetime of heterogeneous wireless sensor networks. The reliability among energy consumption with quality if service requirement meant for reliability gain turn out to be much more tricky for handling when there is an inside attacker obtainable in the network. As a result, it is necessary to make use of effective intrusion detection system to detect in addition to remove such malevolent nodes from the system. Also such intrusion detection system has to make available superior performance with least energy expenditure with the intention that it is helpful to get better system lifetime. Increasing of source redundancy in addition to path redundancy will enhance the reliability as well as security on the other hand, it moreover decreases energy expenditure and consequently it contribute to the enhance of the system lifetime [6].

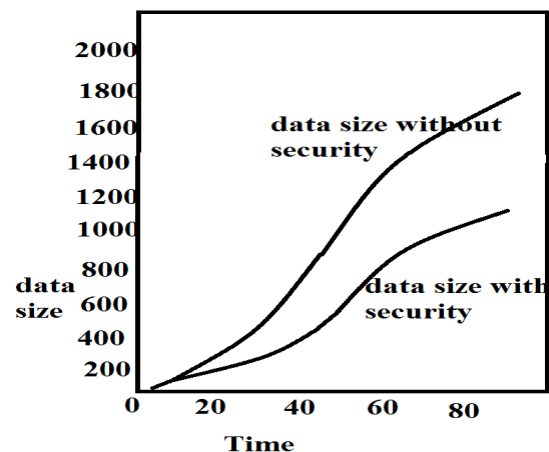


Fig1: An overview of data delivery ratio

4. CONCLUSION:

None of the traditional work consider trade-off in presence of malevolent node thus our aim is to work out the problem of balance among energy consumption as well as quality of service necessity to offer consistency gain with the objective to maximize lifetime of wireless system. Towards attaining the scalability, consistency as well as energy conservation in wireless sensor network, clustering is one of the most excellent solutions. While most earlier research were fixed on usage of multipath routing to get better reliability, some consideration has been paid to use multipath routing to tolerate insider attacks. In our work we put forward redundancy management with reference to heterogeneous wireless sensor networks where we make use of multipath routing to respond user queries in presence of untrustworthy and malevolent nodes which might cause packet loss within the network. Important awareness of our redundancy management is to attain the stability between energy consumption as well as gain in reliability, timeliness all along with the security to exploit the system useful duration. We address the redundancy management within heterogeneous wireless

sensor networks to put up with intrusions which are accountable for packet loss as well as jamming attack.

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