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MULTIHOP COMMUNICATION USING DYNAMIC NETWORK ANALYSIS

[1]Sasikala.N,
PG scholar/CSE,
Tagore Institute of Engineering and Technology,
Salem, India.
sasikalagayu123@gmail.com

[2]Saranya.M,
Assistant Professor/CSE,
Tagore Institute of Engineering and Technology,
Salem, India.
saran6it@gmail.com

[3]Surya.A,
Assistant Professor/CSE,
Tagore Institute of Engineering and Technology,
Salem, India.
surya.cse89@gmail.com

***Abstract* — To keep messages confidential from intermediate nodes that the multiple source-destination pairs communicate confidential messages. In order to improve the network utility the quality of service has to be improved. Develop a simple, and yet provably optimal dynamic control algorithm that association flow control, routing and end-to-end secrecy-encoding. End-to-end dynamic encoding scheme encodes confidential messages transversely multiple packets, to be combined at the ultimate destination for recovery. develop an optimal dynamic policy for the case in which the number of blocks across which secrecy encoding is performed is asymptotically large consider encoding across a finite number of packets, which eliminates the possibility of achieving perfect secrecy .Develop an optimal proposed algorithm contains multi path diversity and temporal diversity due to channel variability encoding and decoding is carried out with multiple packets.**

***Index Terms*— all pairs of algorithm, end to end, secrecy encoding**

I. INTRODUCTION

Multi hop Wireless Networks are observed as such a promising solution for extending the radio coverage range of the existing wireless networks. There exist various security and privacy issues in MWN including confidentiality, Integrity, and authenticity. Preventing traffic analysis flow tracing and providing source anonymity is critical for securing MWNs. The nodes can communicate with each other complete multiple packet forwarding. Confidentiality of communicated information between the nodes is necessary the secret communication rate for point-to-point communication in wireless networks. Whether the communication from a source to a destination can be covert from an eavesdropper who has complete access to the transmission a number of mobile nodes that communicate using wireless transmission f network has the advantage of actuality able to be set up and deployed quickly the fact that all communications are carried over wireless links in short-range communication.

III PROPOSED SYSTEM:

The set of secrecy encoding rates that enables confidentiality of information transmitted by the source. A stationary control policy giving joint scheduling and routing decisions that achieves end-to-end confidential transmission of information. To that end, we state a network utility maximization problem and provide a scheme that maximizes aggregate network utility while achieving perfect secrecy over infinitely many blocks. Topology hiding protocol is used

II. METHODOLOGY

For network utility maximization and make data confidentiality we approach flow control, routing and end-to-end secrecy-encoding. For this multipath diversity and temporal diversity are used. Our end-to-end dynamic encoding scheme encodes confidential messages across multiple packets, to be combined at the ultimate destination for recovery. Infrequent queue updates and de-centralized scheduling algorithm are proposed for multi-packet transmission

procedure FORWARDPACKET($R_{i,P}$)

if forwarding timer expired **then**

$F(R_i)= \Phi$

$L(R_i)=\{n_k|1\leq k\leq c\}$

$G(L(R_i))=$ NeighGraph($L(R_i)$,Table(R_i))

$F(R_i)=$ForwardingSetSelect($G(L(R_i),\Phi^*)$)

for all $j>j_{max}$ **do**

$F(R_i) = F(R_i) - n_j$

P.ForwardingList ← $F(R_i)$

Forward P

else

Drop P

end if

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IV. ANALYSIS

A. *Query Processing Approach*

Tripper find the best plans for their journey spot-visiting order, as well as staying time at each place, such that the total traveling time on road networks (i.e., the total time on the way to targeted places qi) is the smallest with high confidence. First to estimate the travel time for any route between any two points in the road network under specified trip conditions, both the mean travel time and the variability area of interest, considering that relationship travel times along the route may be correlated. The observations used for the estimation come from search vehicles that travel on the network, reporting the time and their positions at certain intervals. The sampling frequency is assumed to be low, in the sense that the distances between continuous reports are typically longer than the scale preferred to estimate travel times. The only information considered is the observed travel times and distances between reports hence the data for example, instantaneous speeds, are not available. [5] proposed a secure hash message authentication code. A secure hash message authentication code to avoid certificate revocation list checking is proposed for vehicular ad hoc networks (VANETs). The group signature scheme is widely used in VANETs for secure communication, the existing systems based on group signature scheme provides verification delay in certificate revocation list checking.

B. *Index Traversal and Query Answering Protocol*

Input: Probabilistic Time-Dependent graph (PTD-Graph), a tree index I over G, set of n query points q1,q2,…, qn, associated with their tripper staying time (TST) and a probabilistic threshold value.

Output: Tripper plan that match with q with confidence α

1. *Initialization*
   - Initialize the min-heap H accepting entries (plan,key)
   - Obtain the tripper plan, w.r.t different order of entries
2. *Iteration*
   - Obtain synopses and parameters for each qi ∈QS, and initialize an empty
   - candidate list cand(qi) for each qi
   - Calculate travelling time intervals, [LB_T(plan), UB_T(plan)] of tripper plan
   - Apply graph distance pruning to filter out false alarms of pairwise nodes between cand(qi) and cand(qj), and obtain candidate set cand(qiqj)(10) while (cand(・) contains nodes)
   - Prune the false alarms of candidate plan via α
   - Insert other candidate plan into H
   - While H is not empty if (plan,key)=de-heap H
   - obtain children nodes/vertices via index I for each entry(Ni) ∈H cand(qi) for each (Ni,Nj) ∈ cand(qiqj)
   - use structural/probabilistic pruning to prune (Na,Nb) for Na ∈Ni and Nb ∈ Nj
   - add (Na,Nb) to candnew(qiqj) if it is not pruned
   - cand(qiqj) = candnew(qiqj)
   - join candidate lists among cand(qiqj) for (qi, qj) in QPlan
   - refine candidate subgraphs in the join results and return the actual answers
3. *Termination*

   The key value is greater than threshold value, then terminate the loop.

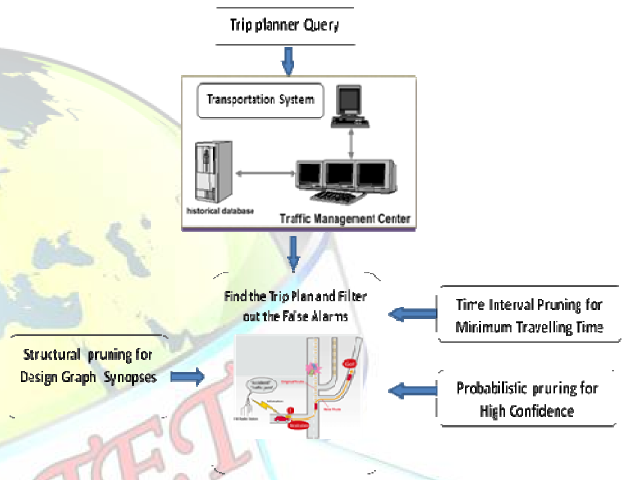

Fig.1. Architectural Diagram

Fig.1 is represented the Architectural diagram for Tripper query answering approach. The Tripper entering the planning query into transportation system and the Traffic management control consisting of the various traffic information about the road way network and traffic condition. With the help of this transportation system tripper get the plan for his/her travel. To proposed three structural/Time interval/probabilistic pruning methods for obtaining the efficient plan when the uncertain functions are occurred on the road network. For Example some accident is happened the road way the traffic jam is occurred so the tripper plan is delayed for reach the destination. Using this pruning technology tripper know the alternative path and achieve the goal.

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V.NUMERICAL RESULT

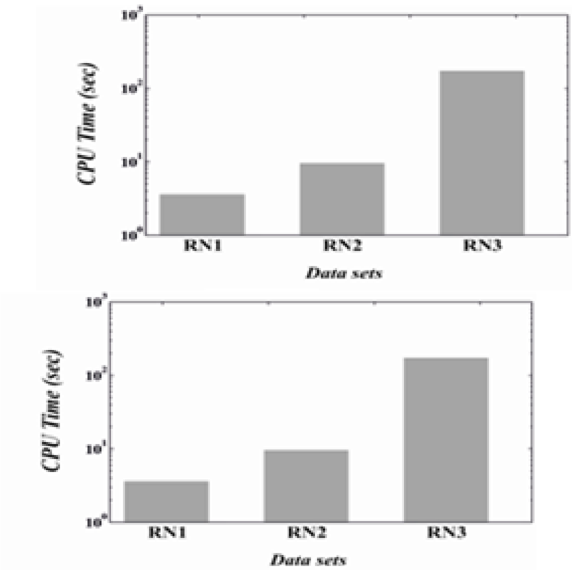


Fig.2. TQ performance vs. data sets

Fig 2. Illustrate the efficiency of the tripper answering approach on three road network RN1, RN2 and RN3 with the traffic condition or undefined condition has been occurred. In this Fig.2. The small road network RN1 and RN2 with that CPU time is 0.27 ~ 0.52 second and the large road network RN3 have the CPU time is 2.36 ~ 4.20 second to processing. We get embrace 100 mock-up of road networks for each given data set, and then evaluated the ratio as follows The number of actual Tripper Query answers in the returned query result divided by the total number of actual Tripper Query answers.

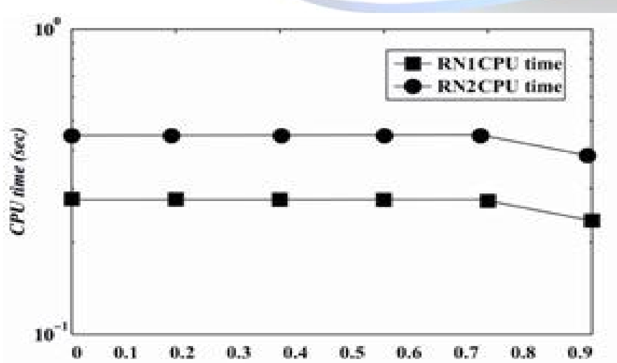


Fig.3. TQ performance vs. probabilistic threshold α

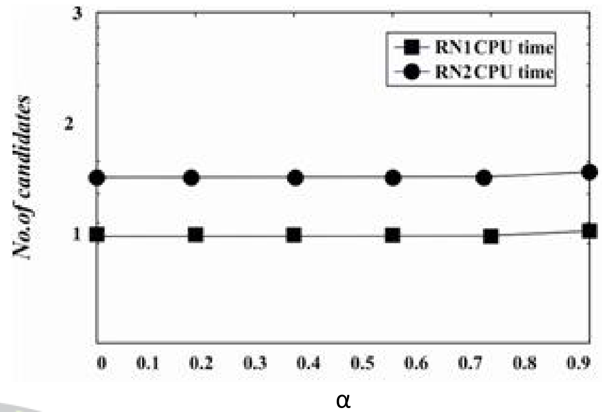
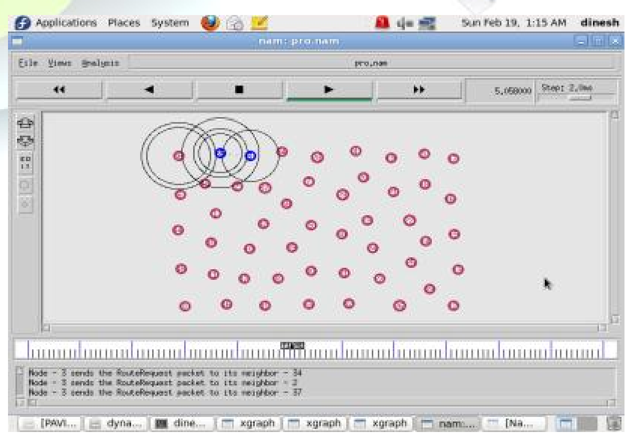


Fig.4. No. of candidates vs. probabilistic threshold α

Fig.3. illustrate the tripper query performance with the probabilistic threshold value α changeable from 0 to 0.9. In Fig.3. Can achieve the low CPU time cost. i.e. less than a second for RN1 and RN2. When the α is increase the CPU time smoothly decrease. This can be realized by using the probabilistic pruning method, use closed firmly time lower bound value of ((1 – β)-LB_T (Source to Destination)) and filter out the false alarms of the candidate plans. Fig.4. shows that varies the different n values. This is due to different filtering effects, tightness of travelling interval with respect to different location or number of query points in road networks. After the filtering the number of candidate plan is small, which is greatly save the modification time. (i.e. equal to checking α computation of matching probability).

EXPERIMENTAL RESULTS



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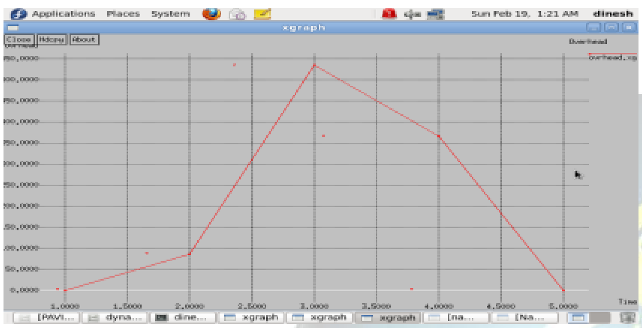

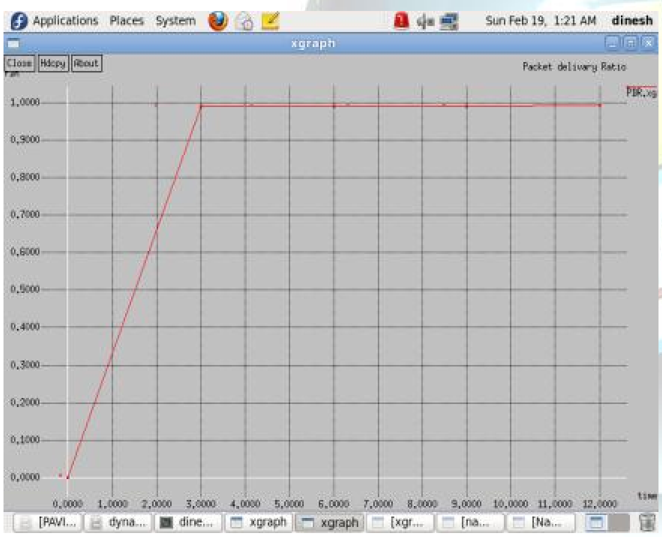

V.CONCLUSION

In this paper, we examine a useful and essential problem, known the tripper query (TQ) answering due to undefined function occurrence on spatial the road network. With the help of this literature work for perceptive how to solve the problem due to some undefined situation happening on the road network. In precisely, the tripper retrieve those trip plans, which visit several places of interest (staying at each place for some period of time that is staying time), and have the minimum traveling time on road networks with high confidence. To efficiently deal with this problems to propose the effective pruning techniques as time interval and probabilistic pruning for reduce the space of searching candidate plans, and structural pruning structural pruning methods with the help of synopses that are adaptively designed according to label distributions in PTD graph. Around the extensive experiments the efficiency of tripper answering approach with minimum travelling time and high confidence is achieved.

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BIOGRAPHY

SASIKALA.N is a Research Assistant in the Computer Science Department, College of Tagore Institute of Engineering and Technology, Salem, Tamil Nadu, India.

SARANYA.M is a Assistant Professor in Department of Computer Science, College of Tagore Institute of Engineering and Technology, Salem, Tamil Nadu, India.