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Result Analysis Generalized Cooperative Multicast in Mobile Ad Hoc Networks

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Abstract: *A Mobile Adhoc Network(MANET) consists of random moving nodes which are free to move throughout the network. Each node broadcasts the information to other nodes in the network through open air. To address the failure of data issue, this paper proposes a general cooperative multicast scheme CM(f, g, p, τ) with replication factor, multicast, cooperative probability, and packet lifetime. With this scheme, a packet from source node will be replicated to at most f distinct relay nodes, which forward the packet to its g destination nodes, and with probability p a destination node helps to forward the packet. Simulation result shows our proposed system achieves high throughput then existing system.*

Index Terms: *Cooperative multicast, mobile ad hoc network, packet delivery probability/cost, two-hop relay.*

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I. Introduction

A Mobile Adhoc network (MANET) is a kind of wireless mobile nodes that can communicate with each other through radio waves. It dynamically self - organizes in arbitrary and temporary network topologies. Security is extremely crucial for mobile Adhoc networks. Security comes from attacks. If no attacks are there, security is not needed. Among all the potential attacks on mobile Adhoc networks, detection of wormhole attack is extremely hard as a result of to launch the attack, One malicious node receives packets from one location, tunnels them to a different malicious node situated in another location of the network and disturb the full routing method.

Computing: Mobile Computing is human computer interaction by which a computer is expected to be transported during normal usage. Mobile computing involves mobile communication, mobile hardware, and mobile software. Communication issues include ad hoc and infrastructure networks as well as communication properties, protocols, data formats and concrete technologies. Hardware includes mobile devices or device components. Mobile software deals with the characteristics and requirements of mobile applications. Mobile Computing is a technology that allows transmission of data, voice and video via a computer or any other wireless enabled device without having to be connected to a fixed physical link. The main concept involves:

- Mobile communication
- Mobile hardware

II. Proposed Method

- Propose a general cooperative multicast scheme CM for two-hop relay MANETs, where source node can deliver a packet to at most f distinct relay nodes, which forward the packet to its g destination nodes.
- then develop a two-dimensional Markov chain theoretical model to capture the complex packet delivery process under CM(f, g, p, τ). With the help of the theoretical model
- Extensive simulation and theoretical results are provided to validate the theoretical analysis results and to illustrate the network performance under the new multicast scheme.
- Our proposed work on 100 nodes.

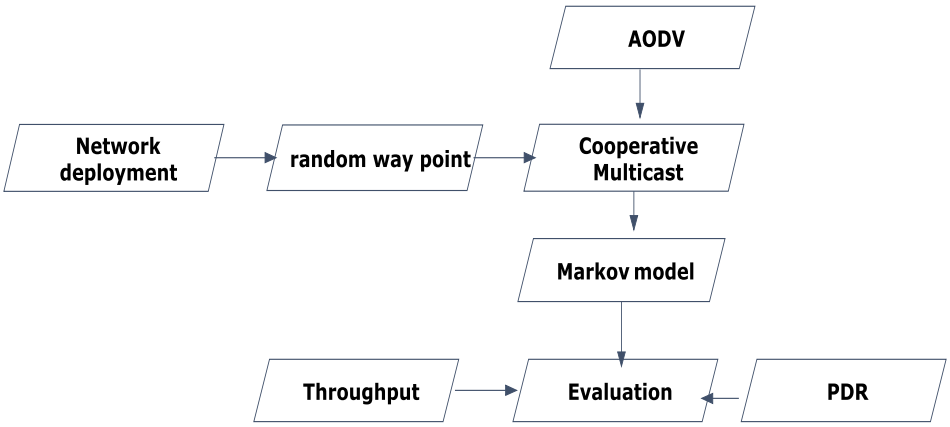

Fig.1 System Architecture

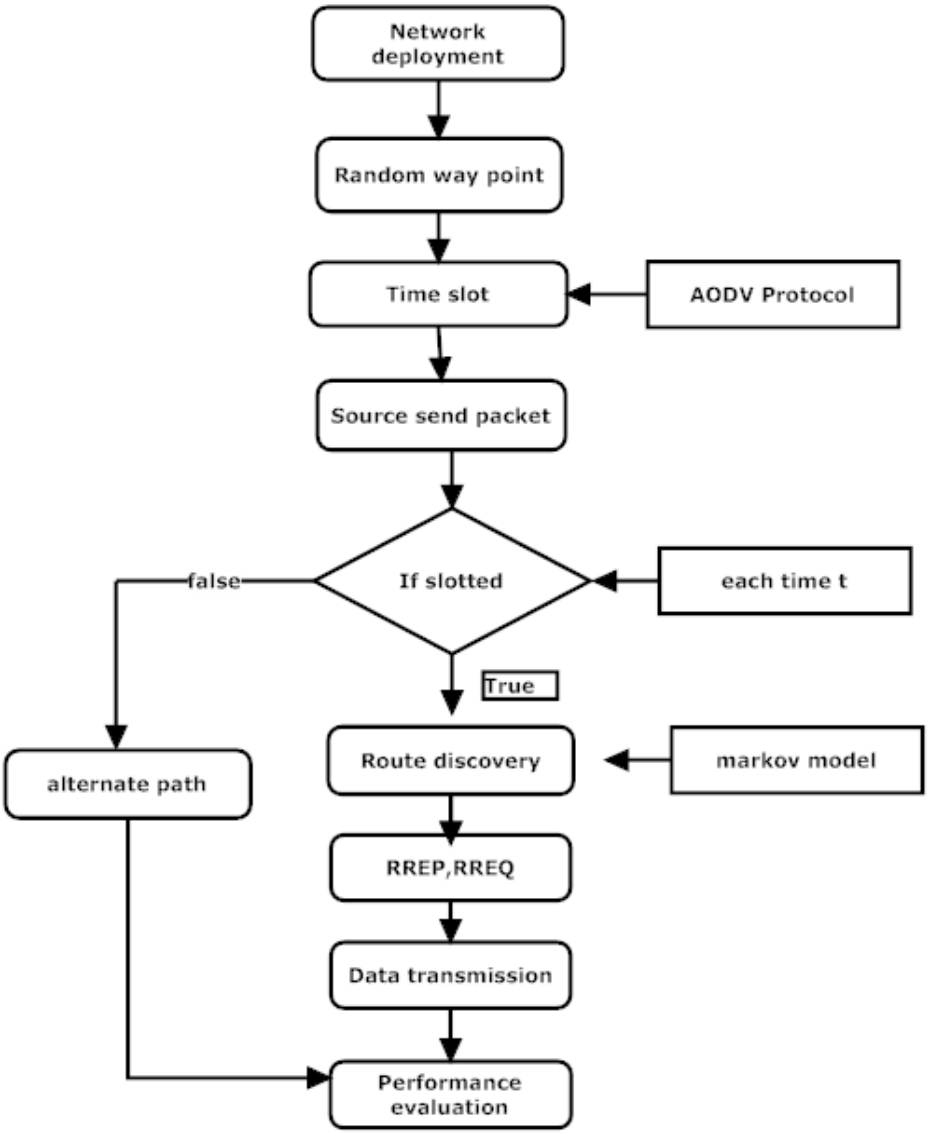

Fig.2 Flow diagram of proposed work

III. Result

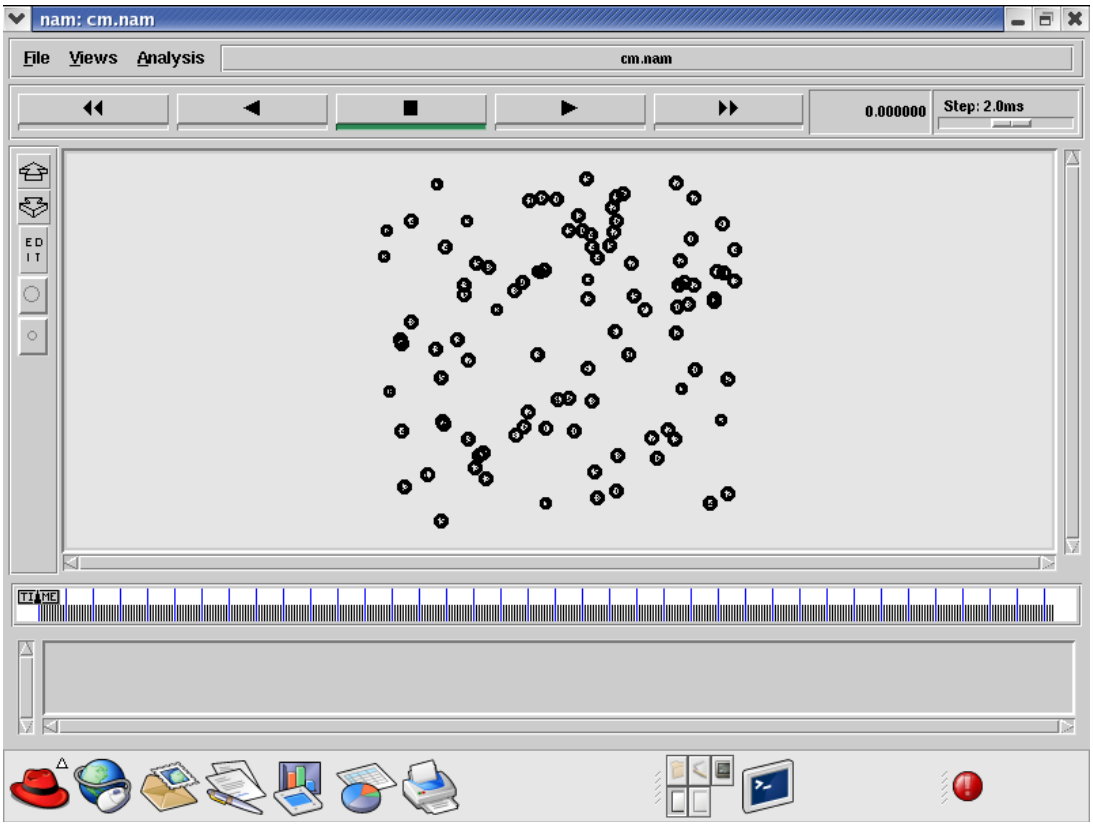

Fig.3 Network Deployment Model

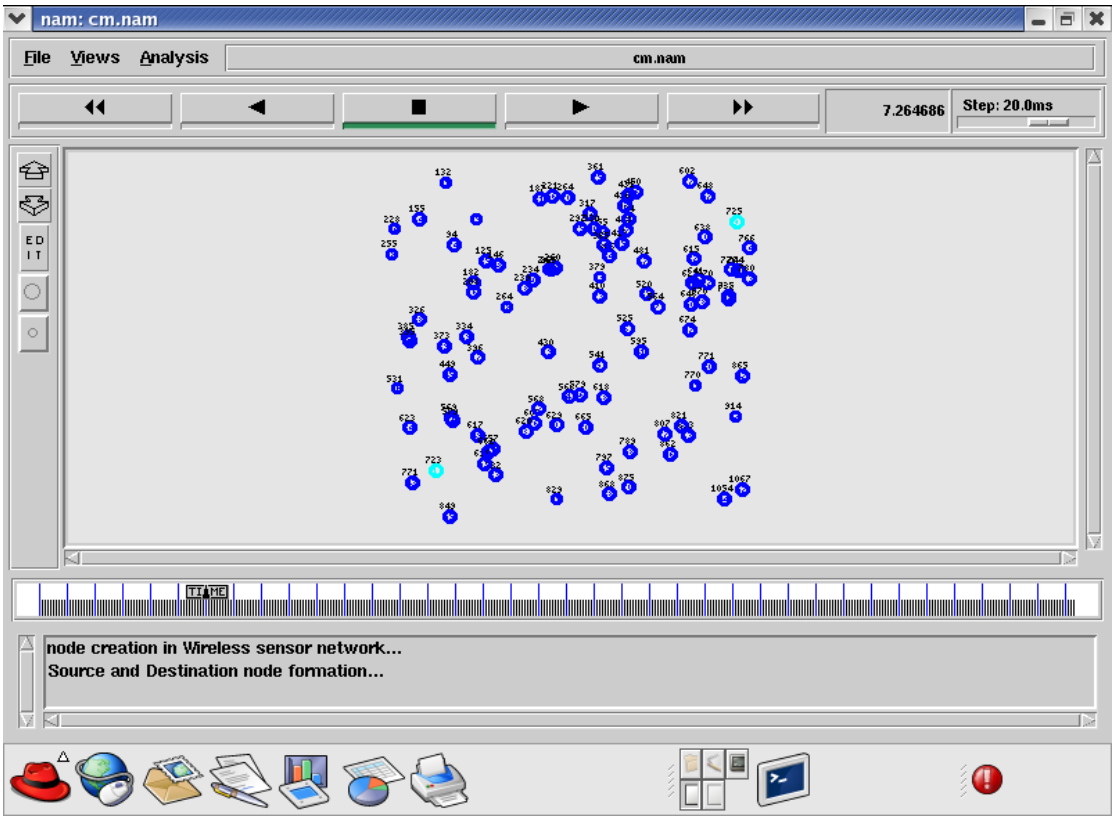

Fig.4 Cooperative Multicast Scheme

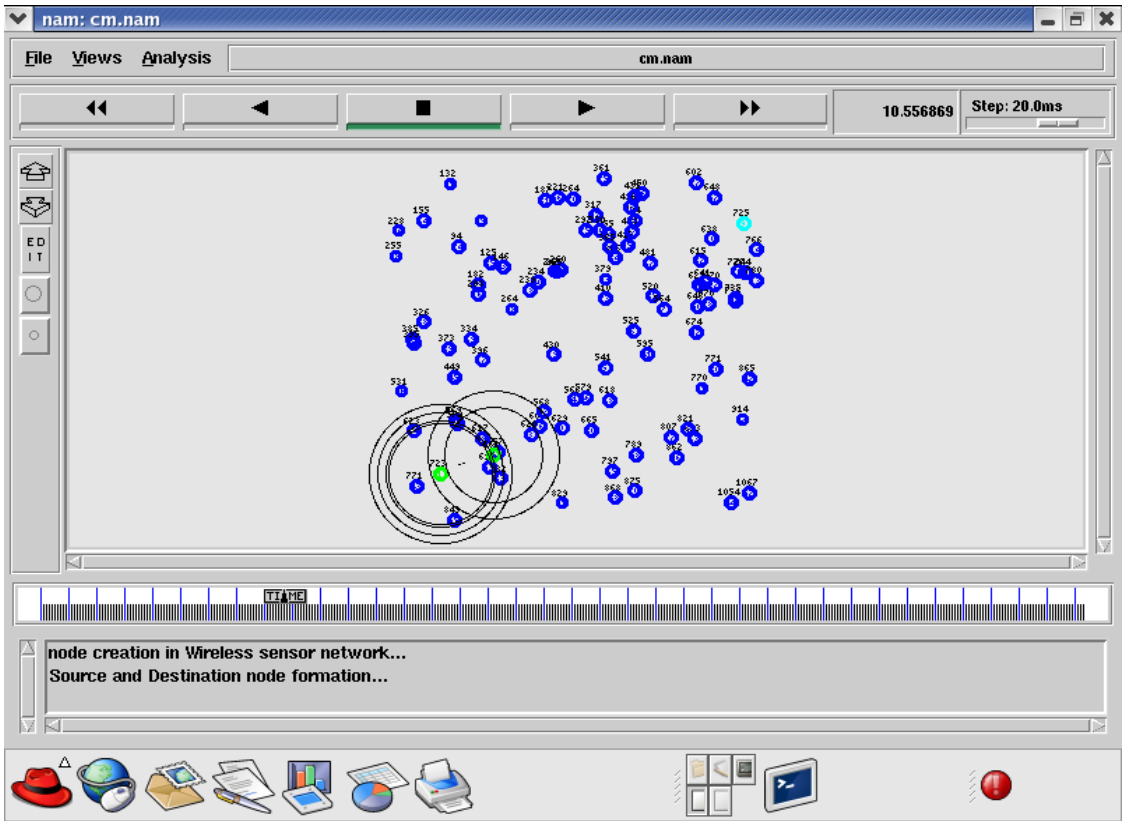

Fig.5 Markov Chain Model

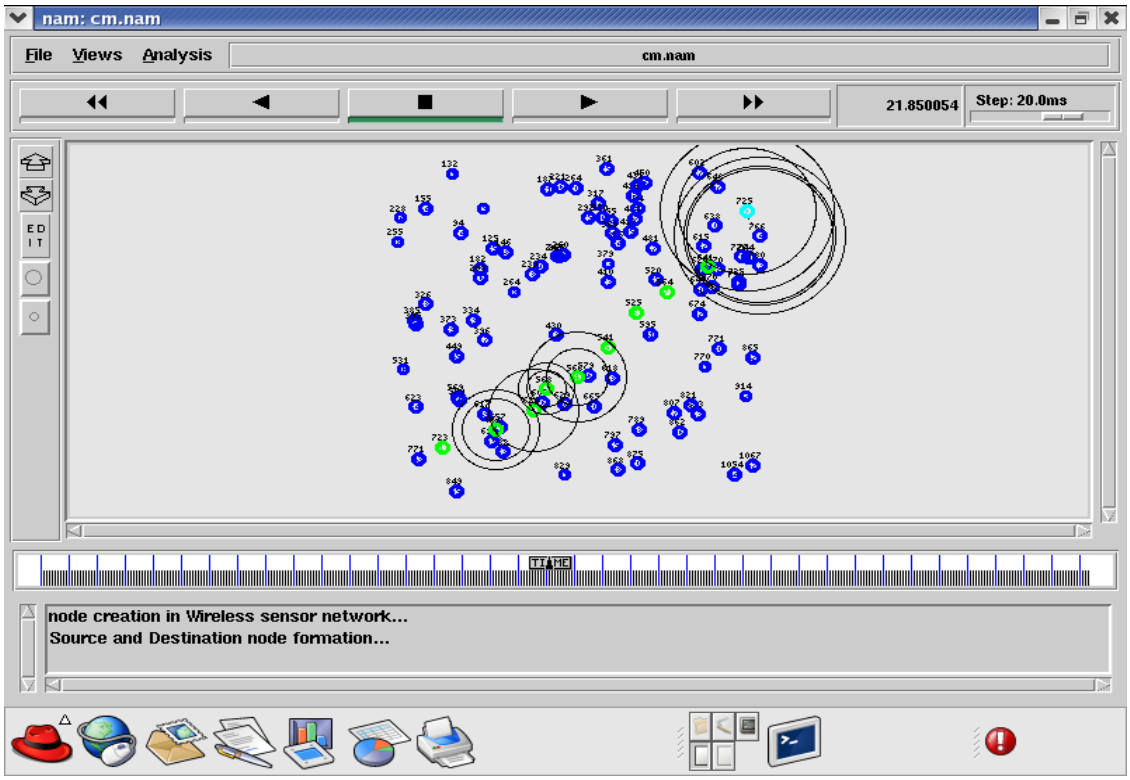

Fig.6 Data Transmission Model

PERFORMANCE EVALUATION:

- **Throughput:** Throughput is nothing but **throughput** is the rate of production or the rate at which something can be processed.
- **Packet Delivery ratio:** Many protocols in wireless sensor networks use packet delivery ratio (PDR) as a metric to select the best route, transmission rate or power.
- **Delay:** We compare our system delay with existing system. The prior work has high delay than our system.
- **Energy Consumption:**
  Total energy is calculated by using Total energy divided by Number of nodes.

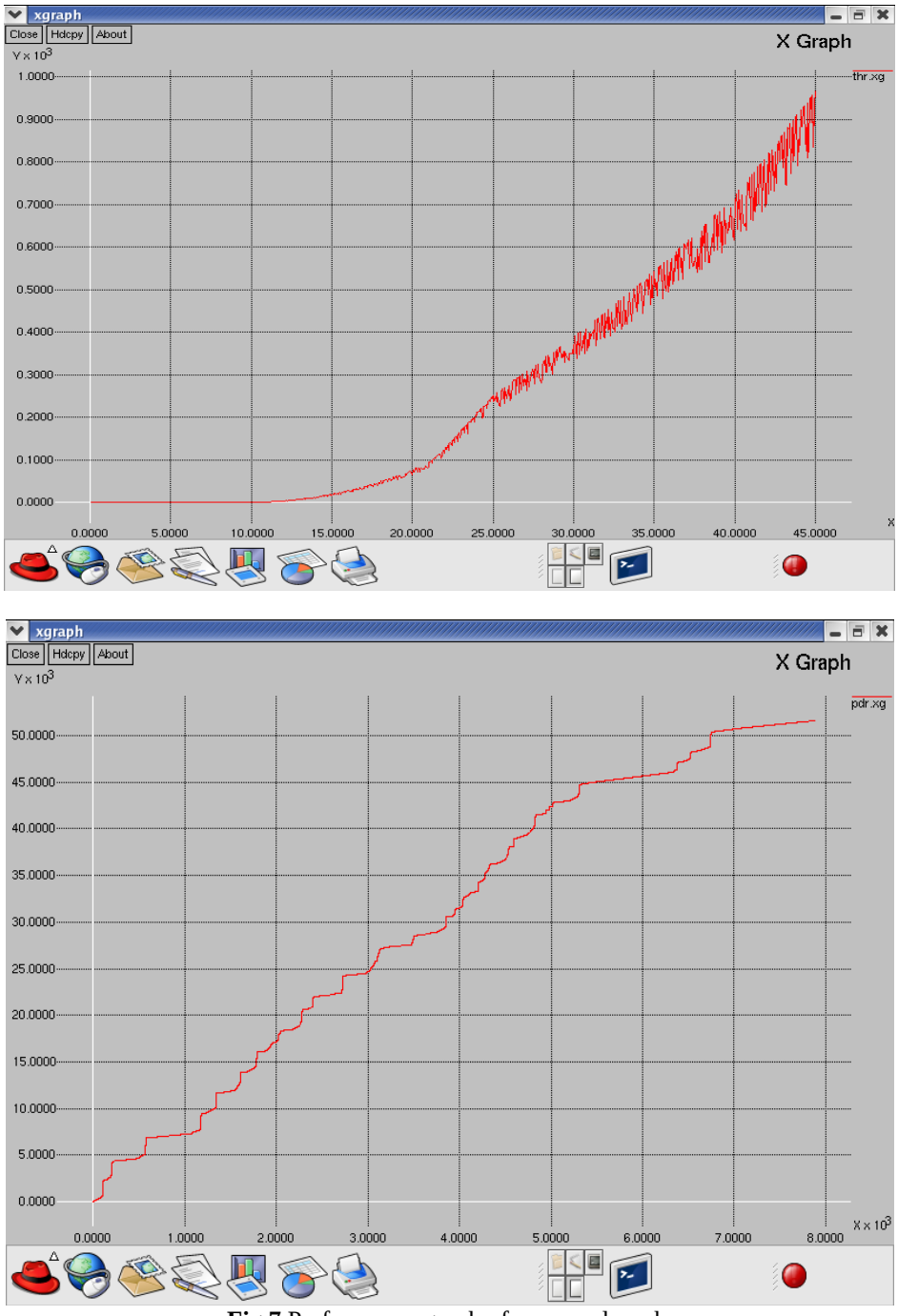

Fig.7 Performance graph of proposed work

TABLE 1 Result Table

	PDR	THR	NODES
Proposed Work	**7874.000**	**44.97**	**100**
Base Paper Work	**-**	**-**	**300**

IV. Conclusion

- Thus our proposed cooperative multicast scheme to fully consider the important issue of destination nodes' cooperative behaviours.
- A Markov chain theoretical model was developed to depict packet delivery process under the general scheme, based on which and some related basic probabilities, analytical expressions were derived for the packet delivery probability/cost .

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