



DISTRIBUTED ENCODE MESSAGE TOWARDS MANET'S USING NETWORK CODING

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ABSTRACT: *To analyze the influence of network coding outline on the act of adhoc networks with concern of two features, such as throughput loss and decoding loss it is based on the network coding. In static network physical-layer network coding is used and mobile adhoc network random linear network coding will be used. To illustrate the good put and delay good put tradeoff in static network. Mobile adhoc networks used in different mobility models. Two transmission schemes are used in the MANET, They are two hop relay scheme and flooding scheme. The exact arrangement of network coding, which consists of the generation of data, generation of size, and network coding Galois field, to optimize the delay and scaling laws of network coding performance and the configuration with the consideration of coding upstairs in adhoc networks.*

Keywords- *interval, Network Coding, Overhead, throughput, Tradeoff*

I. INTRODUCTION

Network coding was initially designed as a part of source coding[1].Additional studies[2][3],indicated that the capability of wired networks can be improved by network coding(NC),which can be fully employ the network resources. Due to this benefit, how to

employ NC in wireless adhoc networks has been rigorously studied in recent years [4][5] with the resolution of throughput and delay performance. The main difference between the wired and wireless network is that there is no ignorable snooping between nodes in wireless networks [6][7].It is the important to design the NC in wireless and adhoc networks with interference to accomplish the development on system performance such as good put and delay/good put tradeoff.

II. APPROACHES

In network coding we analyze the decoding loss, and throughput loss, we use two schemes, They are Physical layer network coding and Random linear network coding used in static and mobile adhoc networks. Two schemes are used in the network coding flooding scheme is defined as the simple computer network routing algorithm in which every incoming packet is sent through every outgoing link except the one it arrived on. Galois field in mathematics, a finite field contains number of elements, it will perform subtraction, addition, multiplication, division operation. It will have some set of certain rules. Tradeoff is desirable but incompatible features.

III. CORRELATED WORK

Network Security is the process of taking physical and software preventative measures to protect the underlying networking infrastructure from unauthorized access ,misuse,malfunction.It will creating a secure platform for computers. In existing systems we used the physical layer network coding in static networks. It will only achieve the improvement of the system enactment such as Good put and delay /Good put Tradeoff. In identical distributed system used in mobility model scheme. It will create the multicast connecting problem.

PLNC ALGORITHM

In physical layer network coding only used in the static networks, so we didn't used in dynamic system. The node creation must be in the static system. Decoding loss can be desired based on the correlated networking packet. Different lemmas are need to analyze the throughput and the decoding loss.

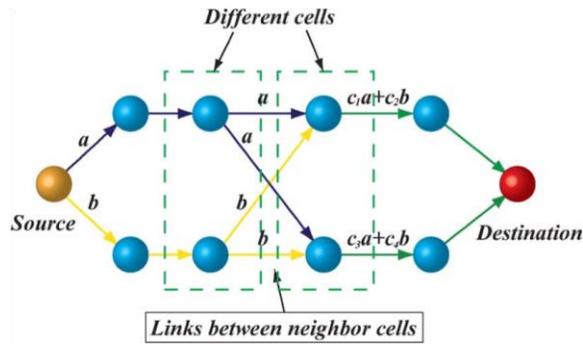
IV. PROPOSED WORK

To overcome the multicast connecting problem scaling laws will invoked in the Random linear network coding, it will considering the decoding loss and throughput loss of NC. The mobility model of the NC, Two-Hop Relay scheme and Flooding scheme are satisfied in both Random Independent and Identical distributed mobility model with random linear NC.A Packet is the unit of data that is routed between an origin and a destination on the internet (or) any other packet switched network. It indicates the results of throughput scaling laws can be achieved by adopting RLNC in MANET'S.

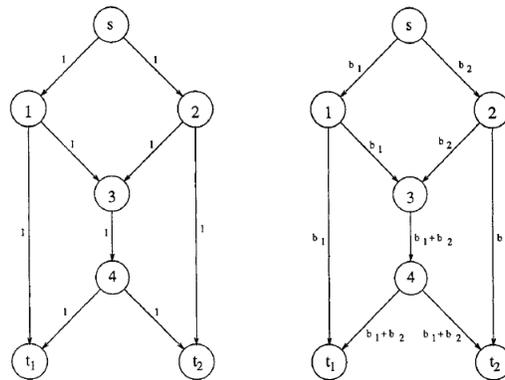
RLNC ALGORITHM

Network nodes independently and randomly select linear mapping from input on to output links over some arena. Decentralized operation and robustness to network changes or fault. Distributed network operation and networks with dynamically varying connection.

DIAGRAM



NETWORK CODING INCREASES THROUGHPUT (PROCESS)



APPLICATION (NETWORK BOTTLENECK):

- Node B in the network below is a “bottleneck” because it will need to forward traffic for two flows (A to C and D to E).
- In this example, all nodes have the same amount of traffic.
- At the same time various user access the same resources. So this type of bottleneck problem will arised. In our network coding this type of problem will be avoided.



Without network coding, an eavesdropper may get half of the information. With network coding, getting useful information is easily.

A. NODE CREATION

In a network, a node is a connection point, either a redistribution point or an endpoint for data transmission. In, general a node has programmed or engineered capability to recognize and process or forward transmission to other nodes.

Given the mobile ad hoc network as below, where two nodes A and C are too far away to communicate directly.

Traditionally, intermediate nodes in networks just forward data.

To provide secure data transmission.

B. NODE CONFIGURATION

Configuration can refer to either hardware or software, the combination of both. Node configuration is the process of connecting more number of nodes for communication.

C. DATA TRANSFER

Copying data from a storage device to memory, copying data from one computer to another, When a network is used, data's are technically "transmitted" over the network, rather than transferred however, the terms transferred and transmit are used synonymously.

D. RECEIVE MESSAGE

Receive message is used to get the original message from the source. Encoded message will be decoded and get the original data.

E. GOODPUT DELAY AND GOODPUT TRADEOFF

Delay/Good put Tradeoff: The delay/good put tradeoff is defined as follows:

$$\frac{D(n)}{T(n)}$$

Which is important performance for a transmission scheme.

F. MOBILITY MODEL

In mobile networks, the total region (the unit square) is divided into

$m = \Theta(n)$ square cells instead of $\Theta(n/\log n)$

Where $m < n$. Our work can be applied to many mobility models, and we mainly concentrate on the random i.e. mobility model and random walk model.

G. TRANSMISSION SCHEMES FOR MOBILE NETWORKS

The following schemes are applicable to both random i.e. mobility model and random walk model. First, we define three kinds of transmissions: source to relay (S-R), relay to relay (R-R), and relay to destination (R-D).

TWO-HOP RELAY SCHEME

R–R transmission is not allowed in this scheme. All the packets are transmitted from the source to the destination by, at most, two hops. The probability that either S–R or R–D is selected is $1/2$. Each packet will be deleted t_d seconds after its generation, where $t_d = \Omega(D(n))$ is decided based on the delay of the networks. When S–R transmission is selected, the source will randomly select a node in the same cell and transmit a combined packet of k original packets with coefficients that are randomly selected from F_q . When R–D transmission is selected, the relay will transmit the corresponding packet to the destination and then delete this packet. The destination decodes the NC when it receives

$$(1 + \varepsilon) k$$

Different packets, where ε is a positive constant.

FLOODING SCHEME

All the three transmissions are allowed, and the probability that one of them is selected is $1/3$. The delete time t_d for this scheme is also $t_d = \Omega(D(n))$.

Source –to destination transmission also new packet, it combines the packet it has with that it receives by randomly selected coefficients and then generates a new packet. Simultaneous transmission in one cell is not allowed since it is hard for the receiver to obtain multiple CSI from different transmitters at the same time.

It will give the finite number of useful information.

V. PERFORMANCE ANALYSIS

In that proposed system, data loss may occurs, but in this Random linear network coding, the creating of nodes in the same system or the different system. System is represent as the work station. We are creating the node and data communication will be started, for the security purpose we will encode the data and send it to the receiver, user will receive the original message after decoding the data. In our performance analysis we will decrease the decoding loss and throughput loss.

VI. CONCLUSION

The ultimate aim of this project is to provide secure data transmission from source to destination. By using the different encoding schemes. It will also include the packet size, maximum energy, transmission power, transmission range.

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