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An Effective Re Deployment of Cooperative Network(S) to Transmit in Incremental Clusters Approach

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Abstract: Scheduling and broadcasting of data through network tunnels is always a big challenge in closed network topologies. Each and individual tunnel or part of network will be having its own capacity to transmit and receive the packets. Adoptive and open networks are easy to transmit the data but the challenges will occur in synchronization of data transmission among them. So clustering, tracking, log maintenance of the data transmission among the channels or tunnels and retransmission with respect energy levels and synchronization can be achieved by *incremental tracking retransmission (ITR*[1]*)* approach. Energy levels will be monitored by network monitor and assigns scheduling depends on the network capacity of the available methodologies. Here the three methodologies are *1.Memory less channels*[2] , *2. Modulated channel*[3], *3.Joint and uniform scheduling*[4] for data transmission with respect to scheduling. Considerable throughput criteria is framed with incremental flow with our work to end up fair and best accuracy levels. This ITR method is totally unique in open networks. Here open networks means which can adopt with legacy and other adoptive open networks in tunnelling or bridge level transmission. The packet buffering and delivery is always depends on previous cluster or next cluster and chance of losing the packets. So to overcome our work is practically implemented in chunks mechanism. Totally 3 or more chunks will be framed as clusters which acts as incremental growth in transmission with respect to losing of the packets. The central frame work which works as auto deployment methodology to track the tunnels. The loss of frequency is traceable using this frame work and adopts the lost and non lost packets addresses and flushes to next level to fulfil ITR method. The practical implementation depends on asynchronous services to roll back to any level/cluster. The feasible transmission is achieved in incremental level of clusters which will get the log or track information about the data from central frame work.

Keywords: open networks ,topology, clusters, channel , tunnel. ITR)

I. Introduction

The theme behind the entire work is to send the data in secured and clustered with scheduling mechanism with incremental to overcome the loss of data. This is practically implemented in open networks like adoptive topologies which can be easily adoptive with other legacy ,open and closed network topologies. The central monitoring server will be monitoring and assigns energy levels to available methodologies to our incremental data transmission clusters or tunnels. Basically the framework **ITR** adopts this methodology to schedule and transmit the data from single source through multi servers with multi energy level methodologies. But ITR will choose all the available methodologies to overcome the noise introduction in incremental gain of losing the data and noise reduction. This framework chooses random channels per method and assigns for feasible servers. Down to the line noise will be reduced in sequential usage of available methodologies. But methodologies will be controlled and tracked by ITR for better transmission.

Available methodologies with respect to **ITR** are

1.Memory less channels,
2. Modulated channels, 3.Joint and uniform scheduling

Here once the data to be packeted and transmitted. ITR will assign energy levels in incremental approach to transmit the packets. Packets will be clustered and tunnelled based on the above assigned energy levels. Once the data is selected and source station or peer the data will be tracked and monitored by central monitoring system and keeps the information. Once the selective and available servers assigned to that particular transmission with respect to above methodologies the channels will be assigned with respect to servers. So channels and servers combinations will be tracked by central monitoring system.

Reconfiguration: Based on the three methodologies the reconfiguration of the server’s memory is key point. Once the data is accommodated by three models each and every noise introduction or packets loss will be tracked and re configured in the next level of the broad casting.

II. ARCHITECTURE:

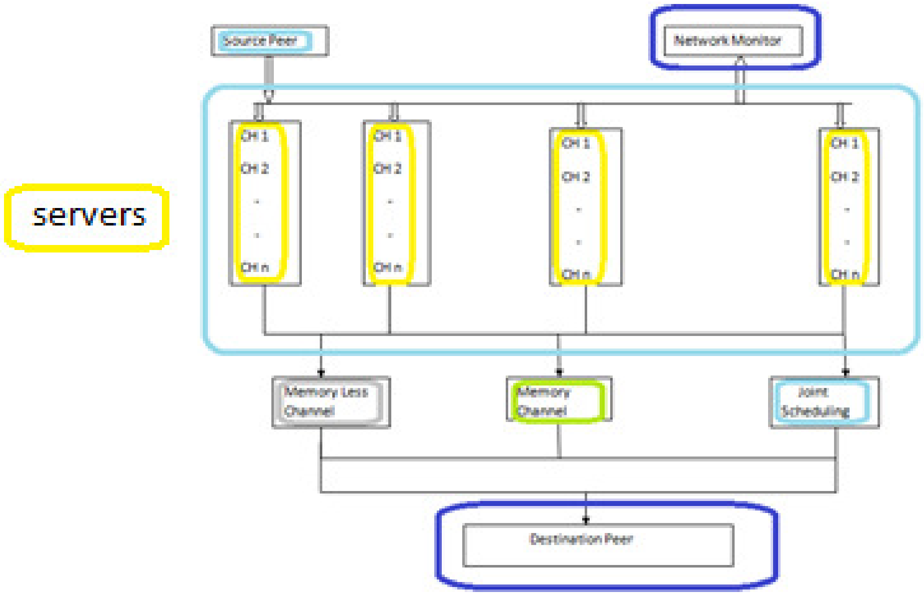


fig1 (overall architecture)

III. Data transmission using ITR in 3 methodologies

[[[Available servers *{S1, S2, S3, S4}* and available channels *{C1, C2, C3, C4, C5}*, with available energy levels *{E1,E2, E3 ,E4}*, **ITR** will track only available servers and channels, *S1[C2 C4] S2[C3 C2 C5] , S3[C4 C3 C1], S4[C2 C3 C4]*. . This will be applicable for all 3 methodologies and ITR will assign variance of memory levels. The memory levels are *S1[m1 m2 m3 m4]* and with threshold $\lambda = n$. The modulations *[md1 md2 md3 md4 md5] modulation* chunk size = 48 in existing scenario]]]. Based on all transmission model we use Cipher-16 encryption 16 bit offset model to encrypt and decrypt the data.

IV. Memory less channels

In this method once the data is selected by source the peer the central monitor choose available servers with relevant channels. But ITR will keep track of loss of data and noise introduction frequency. But the transmission did with switching of available servers through tracked channels without caring of the introductory noise.

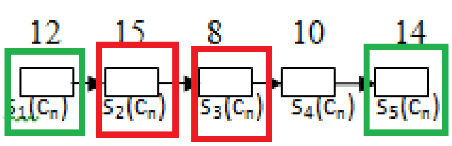


fig2(flow of memory less channel)

In the above transmission mode all servers with channels in sequential mode to transfer the data from source to destination. $n = \sum S >= 0$ which indicates all channels assigned to servers and modulation capacities allocated. Here once the source selected the data packets and if the available packets to be transmitted 40 , synchronous mode is chooses by ITR to transmit the data. Once the source selects the data it will be encrypted by Ciper-16 and packets will be framed in encrypted mode. ***Ciper16(40) ≈ Dp*** which is actual data to be transmitted . In this synchronous mode the each every server with shown modulations in the above pic2 and first data will be sliced in non aggregated mode and assigns the packets(12) and accepts by server1 and channels depends on modulation which is 12 capacity will transmit the data to preceding server. ***[∑S2 + 3] + N(3)*** and ***[∑S3 ~ 7] + N(0)*** here the data can be accommodated as 15 which is modulation of second server's channels and here 3 noise packets will be introduced. And other 12 packets will be accepted by server1 and transmit ion continues till servers idle time available. So in this process the data will be lost and noise introduced and modulations are not dynamically changes by ITR. So there is more chance of noise introduction and data loss.

So the destination may receive the noise level data and also loss of the data. The main reason of noise and data loss is due to switching of the data with in channels relevant to owner servers. So once the data adopted by first available servers and data switches between servers by channel without considering energy levels and will not be counted of duplication of data and which leads to noise and introduction ***N(3)*** and ***N(0)*** So memory will be considered with respect to duplications of channels but tracked by ITR. Each channel will be allocated with unique memory threshold and server will be allocated with packet level capacity based on energy levels which are based on central repository which is assigned by ITR frame work and switches among channels with respect to servers. The switching is totally depends on servers broad casting capacity of packet transfer based on modulation of allocated packet sizes.

Steps to process memory less channel:

1 Select the data by source peer.
2 Track the available servers and channels(relevant to servers) by ITR.
3 Assign the energy levels to channels by dynamic server.
4. Assign modulations for all channels and server for synchronous communication.
5 Log all the servers and channels scheduled packets which were switched by ITR.
6 Calculate and check the threshold of each and every switched server per process.
7 Based on the assigned memory data will be delivered to destination with switch process between servers.
8 Find out the noise to overcome in upcoming levels and updation of the Log.
9. Reconfiguration of will take place with switching servers help

Algorithm to process memory less channel:

***Initialization*:**

λ **= n.;** *// Threshold*

∑S = 0; *//Servers*

∑C = 0; *//Channels*

∫m = 0; *//memories*

∫m = 0; *// modulations*

Start:

S <= SELECT(source)

P <= ITR{ PS[p1 p2 p3 p4…..pn]}*//packet slicing and transmission in synchrounous mode.*

| S | ≈ ALLOC(P); *// servers allocation*

| R | = C [P, S, M]

TRANS <= Rm[SWITCH[P]]

L{P , N} = Calc(TRANS); *// loss of packets(P) and noise introduction(N)*

Reconf(s) *//reconfiguration of the servers*

end;

V. Modulated channels

This method will be considered with memory(modulations) assignment dynamically with respect to channel in synchronous and asynchronous model transmission. ITR will enhance the memory , threshold , modulation levels to relevant servers with respect to all available server's broadcasting capacity. So these attributes will be assigned by ITR frame work by dynamic server. Coming to memory enhancement ITR frame work will check the previous broad casting log and checks for the duplicated transmission and over comes to reduce the noise. There is a limit to transmit the data in this methodology which is threshold and based on this threshold the asynchronous mechanism will be introduced to channels to switch packets between servers for better broad casting with feasible delay time by considering the available memory which is enhanced by ITR with respect to available log with the previous transmission on the same data which is memory less channels.

Here the synchronous and asynchrhous transmission are parallel and concurrent. And the following communication is synchronous with respect modulations assignment with dynamic with ITR.

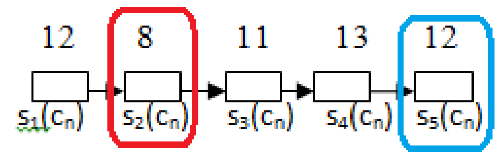


fig3(flow of modulated channel)

In the above communication the servers of transmission is not feasible with synchronous and data lost in the second server itself from S1 to S2. The modulations of first server 12 and 8 with second server. So the encrypted packets will be lost with 4 and 0 noise introductory and from s2 to s3 noise will be introduced and with 4. If the server selects 12 more packets in the second transmission , this will be repeated with .

$$[\ \sum S2 - 4\ ] + N(0)\ \ .\ [\ \sum S3 + 0\ ] + N(3)$$

So to over come this ITR will assign distribution methodology of assigning modulations. So to enhance this taking the above modulations will be enhanced with dimensionality model. The following flow shows the 2 way communication with non distributed methodology.

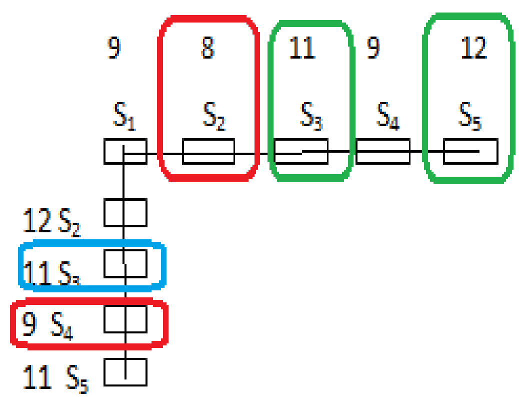


fig 4(enhanced modulated channel)

Once the the data selected by source and ITR will assign packets to S1 with S1(9) which is modulation for server1. Packets will be passed parellelly in 2-way . So the packets loss is incrementally decreases coz of less noise introduction. . *[∑S2 1 4] + N(0) . [∑S3 + 3] + N(3) . . [∑S2 1 4] + N(0) . [∑S4 + 0] + N(2)* by taking this preceeding scenarios ITR will b forge the packets and and 2 servers and takes aggregated packets so the result will be less loss of packets. But still this is not distributive model but asynchrous switching.

The more memory for channels will increase delay time and with buffering and less introduction of noise. The available other advantage is to keep track of the same data(duplicate data to be transmitted ie which was the same data in the previous methodology with less memory , less delay time , noise introduction) will be transmitted by taking best previous and current parameters and attributes to reduce the noise levels. The main feature in this methodology is to reconfigure the delay by enhancing the memory for the channels.

The log will be having the loss of packets and noise introduction and forged packets track. Compared to memory less channel in this the packet loss will be reduced and also noise introduction.

Steps to process modulated channel:

1 Select the data by source peer.

2 Compare the data with log which is already processed by previous methodology; if so consider the best attributes to reduce the noise levels.

3 Track the available servers and channels(relevant to servers) by ITR.

4 Assign the energy levels and more memory to channels by dynamic server.

5 Log all the servers and channels with respect to memory, scheduled packets which were switched by ITR.

6 Calculate and check the threshold of each and every switched server per process.

7 Threshold will be increased based on the memory and these two frames dynamically with mutual ratio.

8 Based on the assigned memory data will be delivered to destination with switch process between servers by taking feasible and valid delay time.

9 Track the noise to update in the log with new and past transmitted(data).

10. Packet forging with ITR of loss of packets in asynchronous switching

11. Reconfiguration will take place with out servers switching but with asynchronous model.

Algorithm to process modulated channel:

***Initialization*:**

∑S = 0; //Servers

∫m = 0; // *modulations*

∫f = 0; // *forged packets*

∑C = 0; //Channels

∫E = 0; //Energies

∫m = 0; //memories

Start:

S <= SELECT(source)

P <= ITR{ PS[p1 p2 p3 p4…..pn]}//packet slicing

| S | ≈ ALLOC(P); // servers allocation

| R | = C [P, S, M]

f = P ∩ R // forged packets

TRANS <= Rm[SWITCH[P,f]]

Reconf(S)

end;

VI. Joint scheduling

This will be processed on big data when compared with the previous 2 methodologies. Here the modulations will be uniformly assigned to all servers but with distributive and asynchrous transmissions. This communication always in parallel with availability tracked preceding servers but not the busy servers or less modulated servers. So very less chance of loosing the data and almost 0 level noise introductions. All servers will be uniformly having the aggregated modulation.

If the packets(n) to be transmitted from source to destination and available servers(i) then ITR will assign **n % (i^2)** modulation rate. In this scenario always ITR will switch the data asynchronously with the preceding available server.

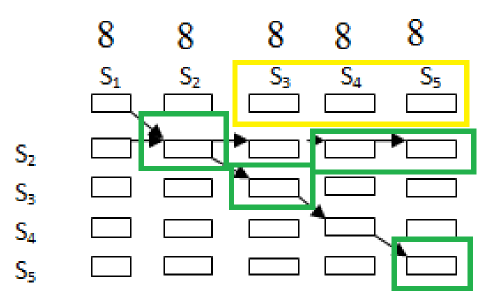


fig 5(flow of joint scheduling)

All the servers will be having only 8 packets in this transmission. If S1 selects the encrypted packets and ITR will assign 8 packets and schedules uniform modulation with 8 which is also threshold capacity and transmits to preceding server and very less chance of losing the data unless server fails to transmission. But in this scenario log will be tracked by ITR for duplication because the data is getting transmitted in multi dimension model. The channel will be uniformly assigned with modulation so channels(server's) will be active all the time with the available servers.

Steps to process joint and uniform scheduling:

1 Select the data by source peer.
2 Compare the data with log which is already processed by previous methodology, if so consider the best attributes to reduce the noise levels.
3 Track the available servers and channels(relevant to servers) by ITR.
4 Assign distribution modulation levels and channels by dynamic server.
5 Log all the servers and channels with respect to memory, scheduled packets which were switched by ITR.
6 Calculate and check the threshold of each and every switched server per process.
7 Threshold will be distributed based on the modulation and these two frames dynamically with mutual ratio.
8 Based on the assigned memory data will be delivered to destination with switch process between servers by taking feasible and valid delay time.
9 Track the transmission rate in the log with new and past transmitted (data).
10. Reconfiguration will take place without switching.

Algorithm to process joint and uniform scheduling:

u = 8 // uniformly distributed

∑S = 0; //Servers

∑C = 0; //Channels

∫E = 0; //Energies

∫m = 0; //memories

Start:

S <= SELECT(source)

P <= ITR ∀{ PS[p1 p2 p3 p4…..pn]} ∪ { PS[p1 p2 p3 p4…..pn]}

| S | ≈ ALLOC(P); // servers allocation

| R | = C [P, S, E]

TRANS <= Rm[SWITCH[P u]]

end;

(Note: In all the 3 models if ITR finds the duplication of data the retransmission will not be from source to destination but only from ITR log.)

VII. Encryption

In this model the encryption done before sending the packets to all above 3 models. Cipher text will be introduced as key with 16 blocking mechanism with UTF and AES methodologies. If the data is not with multiples of 16 then padding information framed by AES and key will be injected and encryption takes place. The same will be tracked to remove at the destination side to decrypt and erase the padded information.

Algorithm For Channel Encryption:

***Initialization*:**

G_k <= Key **[{'A'}{'A'}{'A'}{'A'}{'A'}{'A'}{'A'}{'A'}{'A'}{'A'}{'A'} {'A'}{'A'}{'A'}{'A'}{'A'}] λ = 16 ; //Threshold**

O_T = [{}];

[F M] = {['UTF-8'] ['AES']};

l = 0;

$E_d = \sum D_e$;

Ddec = $\sum D_d$;

Start:

O_T ≡ GET (T) ;

l = LEN(O_T) ;

if(l< λ)

start;

r =l % threshold ;

for each i (0 to r)

$O_{T\ (l+i)}$ + = '\0';

end for

end ;

D_e <= ENCR(O_T, G_k);

D_d <= DECP (E_d , G_k);

end;

Packets	Memory less channel	Modulated channel	Joint scheduling
189	169(n)	129(n)	0
297	277(n)	237(n)	0
401	381(n)	341(n)	0

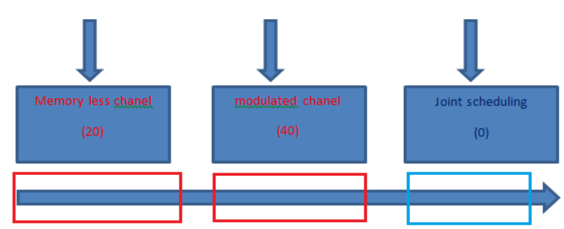


fig 6(flow for one session)

This is practically tested results table. Each and step from left to right and right to left is incremental growth in the form packet recovery with noise reduction and noise introduction vice versa.

Left to right method: In this method if the packets size is 189 and packets will be switched among available servers from source to destination is 20 with 169 noise introduction in memory less channel. In Modulated channel is 40 and 129 noise and finally these 2 losses recovered in joint scheduling with 0 noise reductions.

λ ≜ 20 // threshold value for each model

X [x1 x2 x3] := 0// rate of noise introduction

l = rand(l); // unexpected padding values in switching.

f (x1) ≈ 1λ +l // memory less chanel

f (x2) ≈ 2λ +l // modulated chanel

f (x3) ≈ 0λ +l // Joint scheduling

r ~ ∑ (X) // rate of transmission

The rate of transmission is incrementally reduced with respect noise based on the threshold value.

VIII. LITERATURE SURVEY

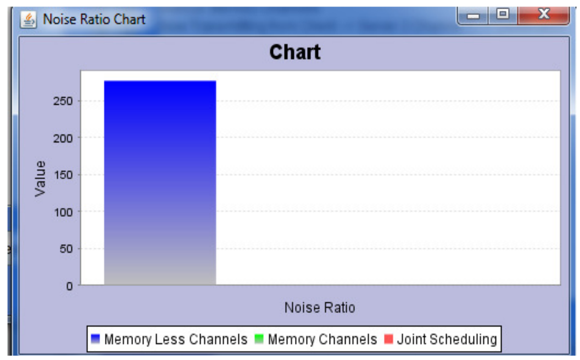
TCP provides generally peer to peer data transfers and specifies how the data to be packeted, broadcasted, routed and received. This total sequence is properly organized with mainly four well known abstract layers which will be used to sort all related protocols with respect to the region of networks involved. From bottom to top the existing layers are link layer, contains broadcasting methodology for available data that stands with in mono network segmentation ie link. Next internet layer connecting self-dependent networks which leads to inter networking. Next host-host transmission handled by transport layer and finally data exchange done per process data exchange with application layer.

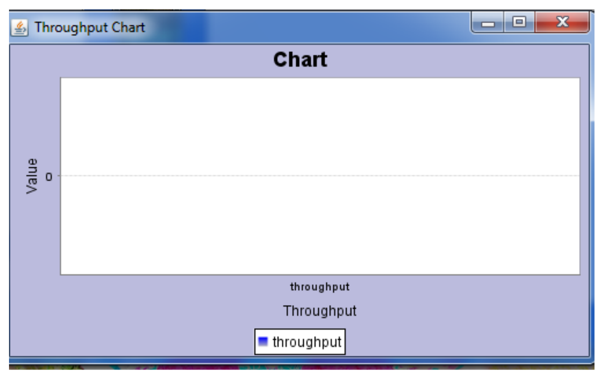
IX. Future work

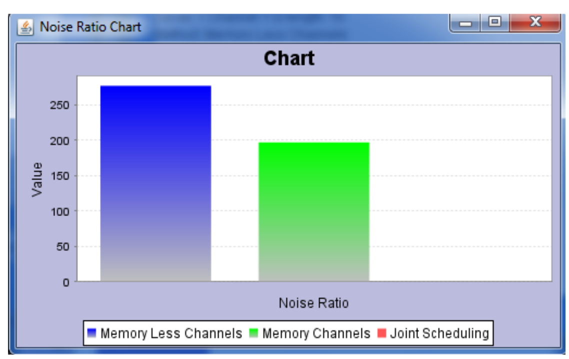
By considering the existing work, our frame work can be extended to adoptive and open topologies in the form of MANETs and TUNNELS to get the better transmission rate. With this existing work our work can be always extended to adopt from legacy networks to ferocious frequency based current trendy networks. This is because of incremental growth of data transmission with available methodologies by ITR which is more chance of adoption rate and to reduce the noise over the networks(not only among the methodologies). So the memory, threshold based channels will be enhanced by ITR to frequency added channels and more dynamic centralized servers. Asynchronous communication will be upgraded to concurrency process methodologies and self-activated servers.

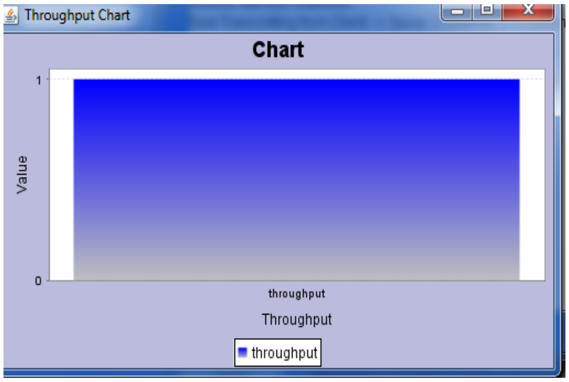
The existing work is on TCP/IP based, but can be extended to UDP, the big reason behind this is acknowledgements are semi tracks by ITR. So feedback is not considered in exiting but log will keeps track of all asynchronous transmissions. So if noise introduction is available the work will be migrated to next level of channels so migration from TCP/IP to UDP is always flexible with the current work.

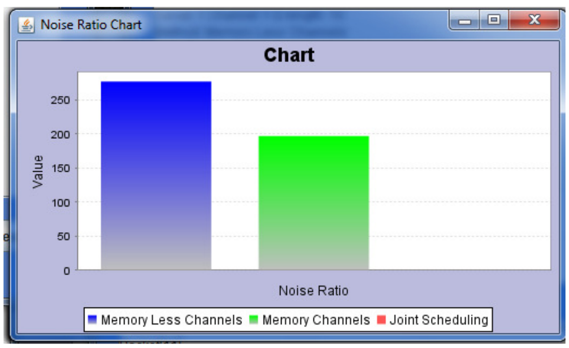
X. Experimental results (Throughput & Accuarcy (wrt noise)):

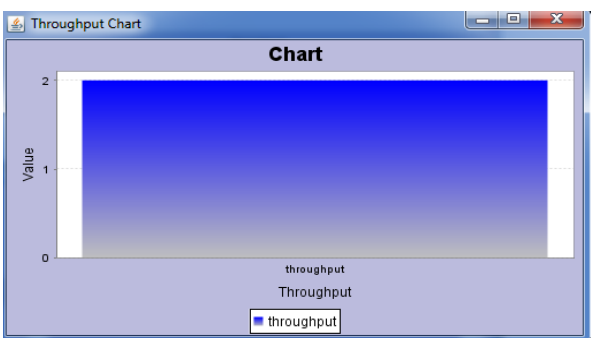












These the practical outputs of incremental executions based on 297 packet broad casting. Following is the table of noise ratio with our 3 approaches.

approach	Packet size	Noise	Accuracy
Memory less channel	297	277	6.734006%
Modulated Channel	297	197	33.670033%
Joint Uniform scheduling	297	0	100%

Accuracy = (Total no of packets – (Total no of packets - noise)) / Total no of packets

Memory less channel accuracy:

MLC Accuracy = (297 - (297 - 277))/297

MC Accuracy = (297 - (297 - 197))/297

JUScheduling Accuracy= (297 - (297 - 277))/297

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