An Investigation paper on Congestion Control Policy

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Abstract- In the advancement of network technology traffic affects performance factors like file synchronization, communication throughput and overall all the scenario where one are having continues connectivity of business to the rectifying organizations, all the business functionality are going for the achievement of paperless communication infrastructure where one are deploying all his working by the internet technology such high speed network communication infrastructure always required well suited congestion less architecture scheme to achieve quality of services , In the field of different communication area there are many applications has be running at present for all type of users like senior, junior and all business users categories. Network proposed many protocols and algorithm for the improvement in flow of the network, Ethernet project 802 and protocols series 802.11a/b/c/d/e has been working at network layer in which user's found some times network work well with priorities choice of network connection but sometimes struggles with the same.
To analyze the actual report of congestion policies here author of the paper are presenting analytical study so that one can understand the lack of functionality in communication with specific network implementations.

Keywords- IEEE 802, Ethernet 802.11, Flow Control, Throughput, Congestion Control Policy.

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I.   INTRODUCTION

From the beginning of network technology many research scientist are working to improving the communication quality , at present network has reached to his higher communication are which had covered a lot with global communication society , every one now choosing either wired or wireless media as a primary way to have communicate with someone else , these produces higher volume of digital data that should need to be manage properly and securely, production of digitalization is growing day by day causes need to more study about the improvement of congestion control policy so that quality can be gather with higher performance . In this paper author are doing analytical study of many congestion control policies. Congestion less network always provides QoS specification with all business computing functionality as the network area is growing the challenges and complexity is also going large that motivate author of this paper to think, to analyze and to propose more feasible and practical policy to control congestion in network.

II.   ANALYTICAL STUDY of CONGESTION CONTROL POLICIES

When author goes through the valuation research study they find there so many research paper has been proposed the communication with quality of service, but no one has compromising at the maximum state at per scheme capacity of quality of communication architecture where author has been found a big distance between the services issued by the proposed papers regarding the same scenario , if one are going to consider reliability as the compulsory objective behind research then one could find a big scale of variations in between all the proposed solutions. In order to understand the services of all proposed congestion control scheme, author showing analytical observation scenario by following one by one in sequence as in [1],[12] author of the paper found congestion control analysis of proposed solution in RED technology.

Author of the paper describing that how the congestion control scheme works at network layer , in order to prove algorithm performance scenario author 's of that paper simulated it at ns2 , where they found the performance scenario of proposed solution are much better than traditional algorithm like Drop tail algorithm , the comparative experimental study on ns2 show how the control scheme is worked out and what will happen when traffic increasing ?what action should be taken there to overcome from the problem.

Definition: 1

In the next [2] author address the solution of the congestion problem at data link layer for the experimental study of protocol implemented at MAC layer ,here author observed that how to analyze the MAC scenario which one can define like.

Sometimes one found in wireless network environment that due to the connection policy of TCP, Network has suffered through the data packet loss and higher delay error at MAC Layer where author has found practical problem regarding the behavioral study of 802.11b protocol that shows miss out retransmission of previous data packet which has been already destroyed due to higher contention problem not by congestion ,study realize that variation in happenings though one can understand traditional MAC protocol.

Definition: 2

The [3],[15] proposed the technical aspect of Vehicular technology used for wireless network, proposed research has been doing study for Cross layer utility maximization problem.

In the proposed solution author's of the paper study the environment where the same links has been shared by various number of nodes, author designed a time slotted network, where channels has been changing allotted slot during the connection in dynamic routing environment, here author also considering a simple case where network has been sharing same channel with multiple links as a result one can found that the solution proposed by research is mathematically optimum solution.

Definition: 3

In the very next paper[11],[15],[4] ,author study the K- hop interface model in order to solve a simple wireless network problem, this can be define as.

Author proposed Flow level dynamics for the wireless network as a summary of the paper author try to take full control over low load and high load regime problems, here author has been worked for the implementation of new scheduling and constant time algorithm which is feasible for the maximum large network for getting the solution of an arbitrary small network.

Definition: 4

In [7], author proposed a investigation report on cross layer designs for MANET network where, author has been works

for the layers functioning with statistical aspect of mathematical study, paper review numbers of experiments comparative study over PHY/MAC/NET layer.

Author of the paper works on the three important factors like adaptive modulation, adaptive channel allocation, adaptive power control are used according to the channel state and the requirements of quality of services. Author has been studied there signals study for noise and interface contention, cross talking problem at lower layer of communication model.

Definition: 5

In the proposed paper [10], author had worked for enhancing the network performance with TCP connection interface, author work for transmission rate radio for the TCP connection channel. To achieve fair and higher throughput communication result author proposed TCP rate control recursive algorithm that work as a intermediate protocol to control transmission rate.

Author proposed solution for the error recovery and reliable connection policy by considering TCP connection, In TCP sometimes dynamics are getting error for the sliding window mechanism where network usually suffer from buffer overflow and low throughput problem , the proposed algorithm also worked for the policy of congestion avoidance.

Definition: 6

In the very next research [11], authors are experimenting the congestion problem at ATM network where parallel traffic arises at multiples, this has been observed with TCP/IP connection protocol. One can analyze it and understand it by define as below definition.

In order to understand and analyze the effectiveness of various congestion control scheme at ATM network ,this scheme consider performance scenario of ATM early packet discard and link layer flow control scheme , to evaluate the performance author has been experimented ATM layer with no congestion control and TCP with Datagram Network.

Definition: 7

In [12], author has been studied reliability and congestion control strategy for opportunistic network, paper proposed scheme for the reliable communication between source and destination and also ensuring that congestion will never arise due to traffic. Main focus of the paper one capture the state of the art of proposals for transfer reliability and storage congestion control strategies. In [8],[13], authors proposed a retransmission multihoming scheme for congestion control and management, in order to capturing the evaluation factor it is real works better than all the others, for the factor of forecasting at network layer supervision buffer optimization is one of the important consideration, in multipoint communication infrastructure quality of services are compulsory considerations which has been completely covered in [7], [14], by implementing and experimenting STDMA framework for wireless network, in the era of multimedia functioning applications environment, it is very basic to grow the traffic that should be managed in [15], where author focus on the call admission control technique for UMTS network .

III. CONCLUSION

At the end author of this paper found conceptual understanding of the given wireless and wired network architecture that all the previous techniques and algorithm always designed to focus the reliability and congestion control requirements , even for both single or multipoint network applications always manage QoS factors with easier management of produced data by difference data centers implemented at difference types of network , in [1], author found drail tell algorithm is inefficient for the performance evaluation factor and also not feasible for large capacity dynamic environment , TCP protocol always know as reliable source of communication but sometimes it breakage the policy of windowing algorithm to be implemented to recover lost data packets at network later discussed in [4],[5],[6].after having analyze other remaining algorithm author found someone best for small network to control congestion like [9], some is very good for higher traffic network area like[10], where as for the purpose of security and privacy as the ATM applications, has been implemented in[10].

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