

Routing & Restoration Algorithm For Optical Networks

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ABSTRACT

In all communication protocols routing is one of the basic property. Routing algorithm plays an essential role in meeting the required QoS, considering the path selection process. In global routing algorithms each node needs to have a reasonably up-to-date view of the whole network topology. The global routing algorithms recently been proposed QoS Localized Quality of Services and also routing scheme is localized based on the locally composed statistical information slightly than the global state information. The selection of paths in the candidate-path set at each node plays a vital role in the overall performance of various methods where proposed in the past for the candidate-path set selection. For proposed a Localization Efficient Routing Information is used to reduce complexity of handling complex global state routing information. In this paper we analyse the performance of a new algorithm Localized QoS Routing Algorithm that is called LBP (Link Blocking Probability). There are two existing localized routing algorithms to performance. 1) (CBR) Credit Based Routing and 2)(WSP) Widest Shortest Path. Blocking Probability is reduced by the Localized Routing Algorithm.

Keywords-Addresses of IP, Multicast, Opticalcable, Streaming Process

1. Introduction

In the network Quality of services are depended on their desired bandwidth and time delay. Over the internet the time-sensitive services are being deployed in Network for all topologies. Routing is one of the basic property of all the communicating protocols and also Routing algorithm plays an essential role in meeting the required Quality of Services considering the path selection process. In global routing algorithms each node needs to have a reasonably up to date view of the whole network topology. Routing algorithms play an essential role in meeting these constrains as they provide the require QoS by considering the QoS metrics in the path selection process when routing incoming flows to the desired destination. In this Multimedia application the QoS routing refers to the routing algorithms that select paths with sufficient residual resources to meet the QoS constraints. For overcome delay in network filed we refers to Random Network application nodes. The incoming node flows of the desired destination by the path of the Routing algorithms. The QoS Constraints are meet by the routing algorithms paths by way of sufficient residual resources and also path selection process by incoming routing path reached at desired destination.[2]

To proposed a Localized efficient routing solution and reduced the complexity of handling complex Global State Routing Information. For routing information exchange by the node vectors of bond states among their neighbors, this scheme is called Global State Routing Information. On the base of connection state vectors, nodes keep up a global knowledge for Network topology and optimize Network routing decisions in the neighborhood.[3]

The below fig 1 shows that Random Network his is the type of topology for a random node path. The Localized Quality of services routing concept was proposed in to overcome the problem associated with global routing schemes and it reaches the required level of QoS by Random Network.

2. Scope and motivation.

Based on the performance of random network is series of simulation and provides the mobile, ad-hoc environment flows to the desired client node as shown in above fig 1.

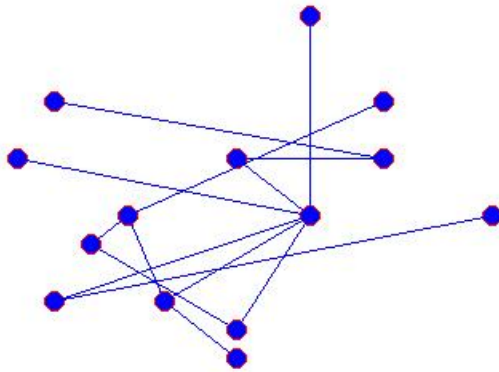


Fig1: Random Network

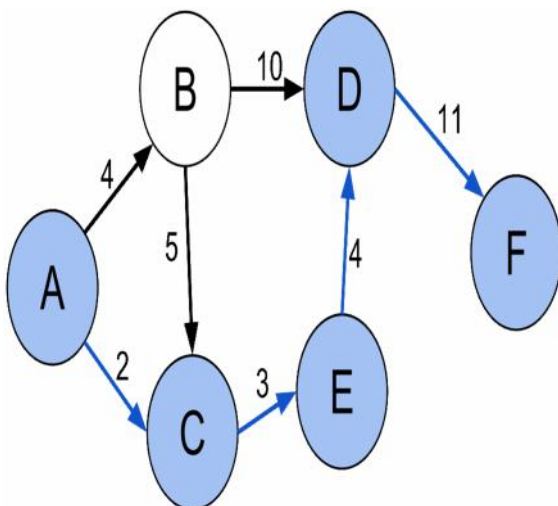


Fig 2: Nodes and Path Considerations.

Above diagram shows the nodes and path considerations for each node for data network information flows from source to all clients. From starting node of A flows data B routing path E to F of node data to client node at destination in the Fig 2.

In fig 2 two series paths, one is the path from source node A to F client node and second path is from source A node data is flow path is B node for store D node to data passes the F client node. The destination node of F is reached by source node is maintains encoded with the set of all series path as shown in two paths.

3. Proposed Network Methodology.

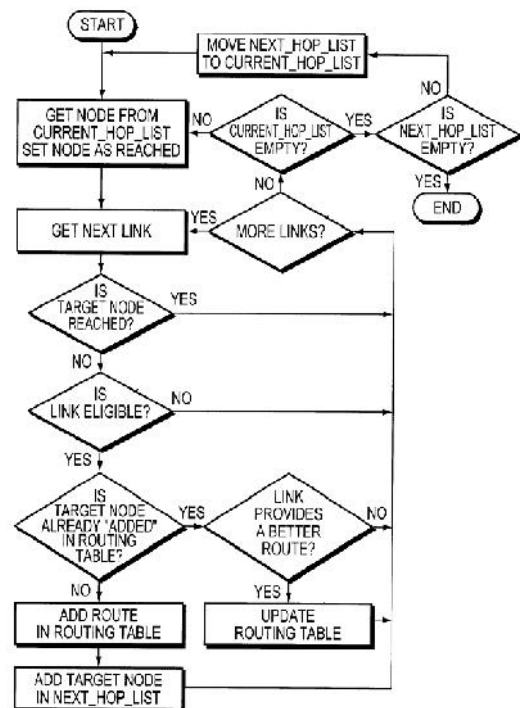


Fig 3: Algorithms of Link Blocking Probability based on Localized Quality of Services.

In Existing Localized Routing Algorithm the source nodes are routing decision by Link Blocking Probability (LBP). LBP Based on link path quality rather than quality of link frame functional of LBP share and the existing routing algorithm of Localization quality path measuring.

The below fig 3 shows that proposed algorithm based on Localized Qos for Link Blocking Probability, and prevents the blocking probability. It gives the Link Based Localized Routing Path as well as average blocking probability rather than path. Below fig3 flow diagram shows the get the nodes from current hop list and set node as reached. If the current node is reached then the routing path is in series. The LBP is gives the safe required QoS as shown in node and path considerations and also the selection of node process is depends on shortest path and routing quality.

4. Results and Analysis.

In part of topic is mainly consist of Network Blocking Probability and Bandwidth for Quality of each node and network path.[1]

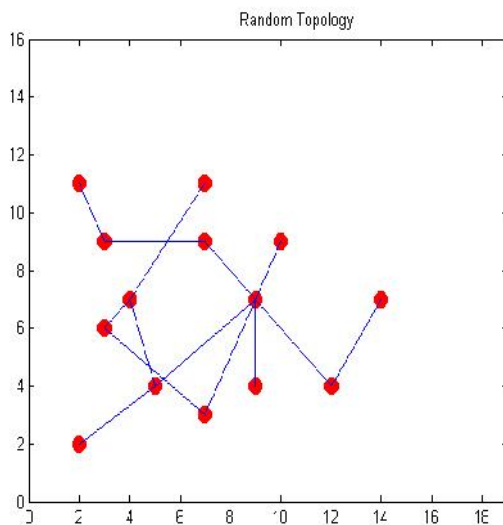


Fig 4: Analysis of Random Network consideration.

The above fig 4 describe the Analysis of random network consideration is depends on Blocking Probability and Bandwidth.

Blocking Probability: When one of the node path is does not have a sufficient lasting bandwidth then the entries blocking state. To overcome this blocking states in node we are proposed Global State Routing Could of Localized routing and also based on random network topology as shown in fig4.The Localized(LBP) Qos routing solution as a best local routing solution[4].

Bandwidth: The bandwidth is metric concave where the path capacity is depends on its bottleneck link. In this paper we are maximize the number of accepted paths and minimize overall Network blocking probability. For homogeneous traffic all paths are having same quantity bandwidth. In heterogeneous traffic the flow bandwidth is different from source to destination network path. At the heterogeneous traffic the flow individual bandwidth quantity is required and uniform range is from 0.1 to 2 network load is fix $N=0.6$. [5]

5. Path Finding.

The network offered load is fixed throughout the simulation run, the performance of all algorithms improves as the fraction of small-bandwidth flows increases. This is due to the fact that routing small-bandwidth flows is easier than routing large-bandwidth flows.

WSP maintains a steady performance increase as the fraction of small-bandwidth flows increases;

this is expected as routing decisions are taken based on bandwidth availability. WSP is aware of changes in link bandwidth caused by network Path

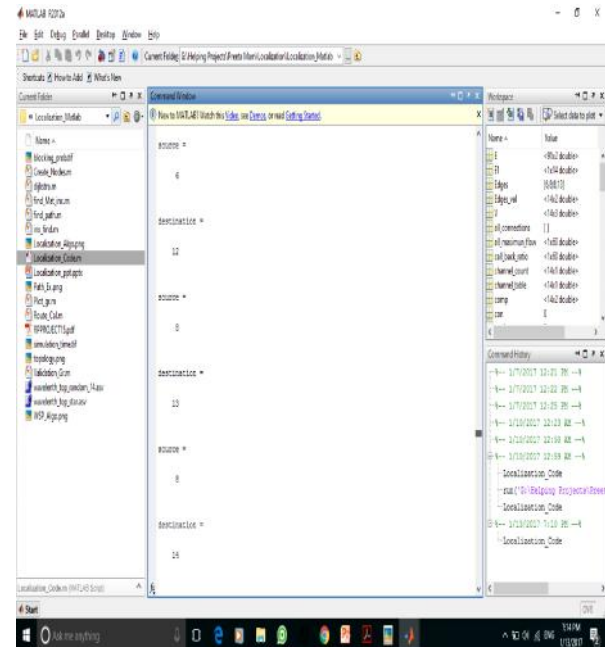


Fig 5: Path finding using Matlab .

The above graph of multicast video file consist along y-axis packets per interval and along x-axis time per second (.MP4).The videos are transmission of data from point to multipoint communication in computer network systems. it is one second of data is stored or frame of 2 Mbps.

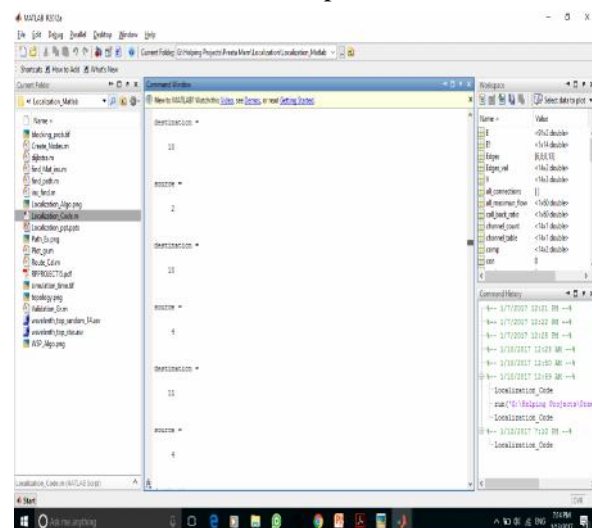


Fig 6: Second level Path Finding Matlab Screen Shot.

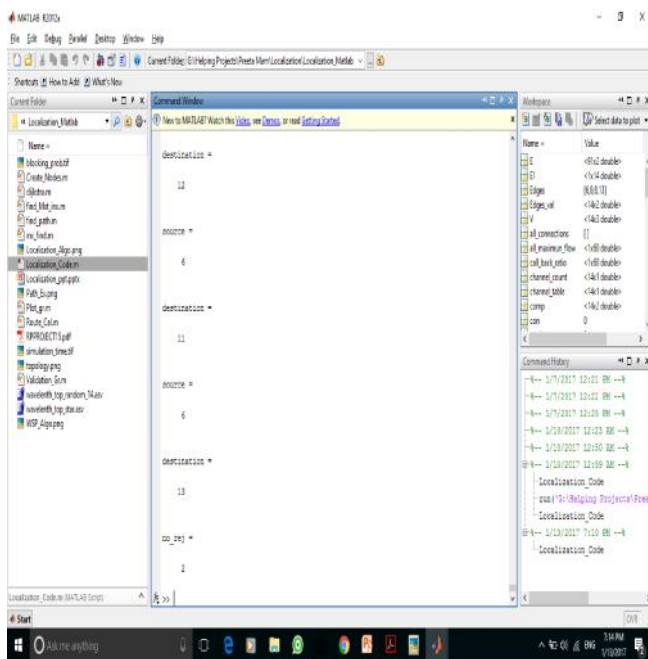


Fig 7: Final Path Finding and Rejection Ratio Finding Matlab .

The above fig 7 shows the Multicast video via optical cable results in wireshark packets analyzer.

Total number of packets are 284, first packet and last packet reached time is 1712.389 sec, average per sec 0.166, average packets size 49.916 bytes, packets in bytes $284 * 64 = 14189$.

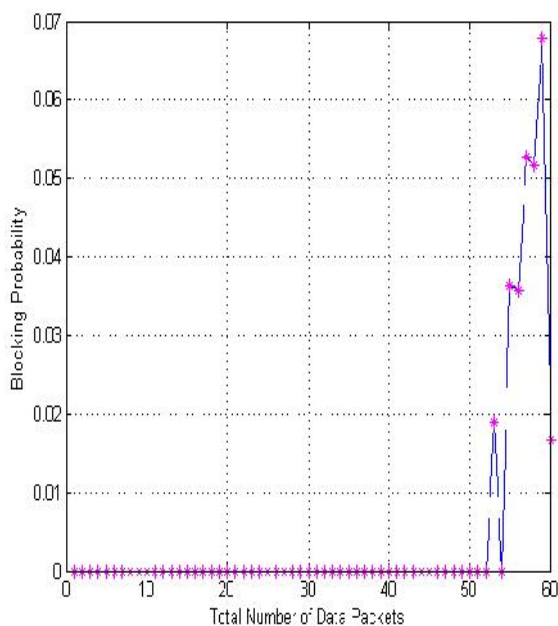


Fig 8: Blocking Probability evaluation w.r.t.No. of Packets.

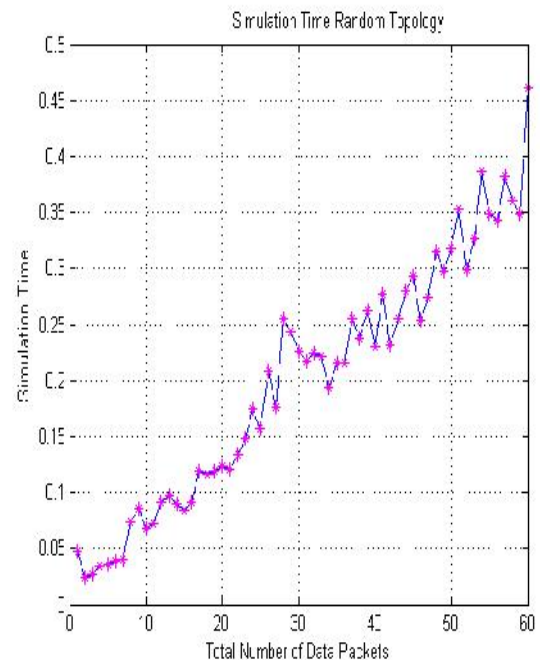


Fig 9: Simulation Time Comparison with Data Packets transmitted.

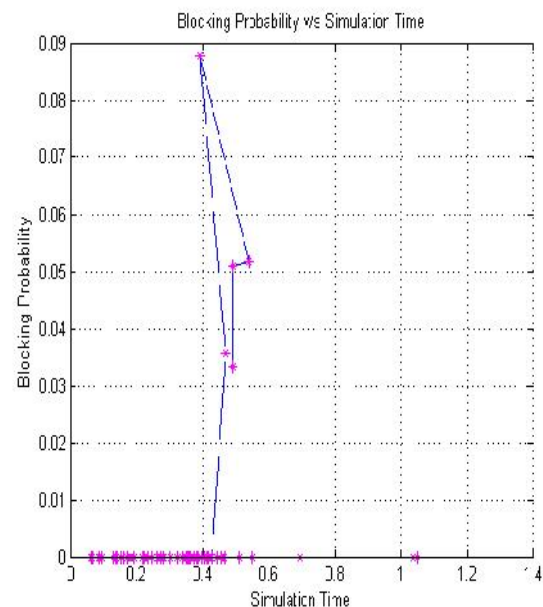


Fig 10: Simulation time comparison with Blocking Probability.

5. Conclusion

In this paper the performances of Optical Networks of QoS for Multimedia Applications. Proposed a Localized efficient routing solution blocking probability is considered and also reduced the complexity of network path consideration for each

node by the Global State Routing Information. According to the global state routing for the routing Information Exchange by the node vectors of link States among their neighbors, this process is called Global State Routing flow. To overcome the Link Blocking Probability we adopted the two routing Methods one is (CBR) Credit Based Routing and second (WSP) Widest Shortest Path. In this paper the global routing algorithm each Network path node is have a reasonably up to date views of random Network Topology.

6. Future Scope.

This work is based on the Optical Networks for increase the performance of bandwidth, optimized the QoS routing Network Node path using random Network topology to approach the Multimedia Applications and also overcome link blocking probability. For the future scope of this work is used for wireless network communication for Multimedia Application

7. References.

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