



the “TEAM” algorithm was MATLAB. In results, the network throughput and enhancement of network traffic were checked [10].

### III. MATERIAL AND METHODOLOGY

In the telecommunication sector, different challenges are briefly described as the AI and integrated services of multimedia getting famous within the 5G community. The common challenges are to implement the intelligent routing algorithms for 5G network topology generation automatically according to the number of nodes. To address these challenges, we reviewed our previously designed algorithm TEAM for the generation of topologies automatically using artificial intelligence for present and future wireless networks. In the TEAM algorithm, the number of nodes can be flexible and automatically adjusted with the possible routes among them. The large number of nodes in a network can increase the overall routing cost and lower the throughput, but the mean value will remain low. If the number of visits/iterations is large, then the mean cost value will decrease. However, a large number of nodes can provide more number of routes, and the algorithm becomes more efficient in finding better routes for transmission.

We are sure that the costs of routing algorithms for communication are easy to manage in both control overhead and the bandwidth ratio. Which is the best combination in both cases, can be determined by the situation of the network topology and the routing algorithm. However, there is a need of designing links between the nodes and the other destinations. After designing the characteristics of the given topology and the entries of the routing tables the cost is associated with the size of the routing tables.

### IV. RESULTS AND DISCUSSIONS

We will try to elaborate on some results deduced from our experiment which we have obtained in simulation and the implementing results in the real networks. Many algorithms can be used and implemented in order to build network topology. To find the network node's routes, different techniques like Prim, BFS, DFS, Dijkstra and TEAM are used. In our artificial intelligence-based algorithm, we used a topology generator using MATLAB. The generation of topology mainly depends on node size in a network. In our algorithm, the topology building will vary as the network size got changed.

The output results from MATLAB are shown in Figure 1 and Figure 2.

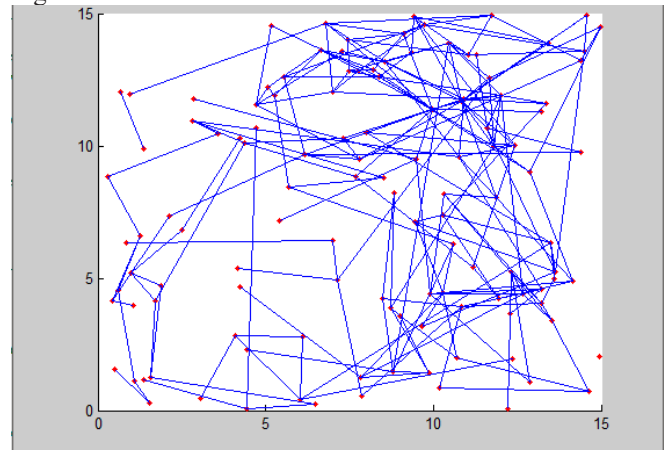


Figure 1. Result of Automatic Topology Generation with 225 Nodes

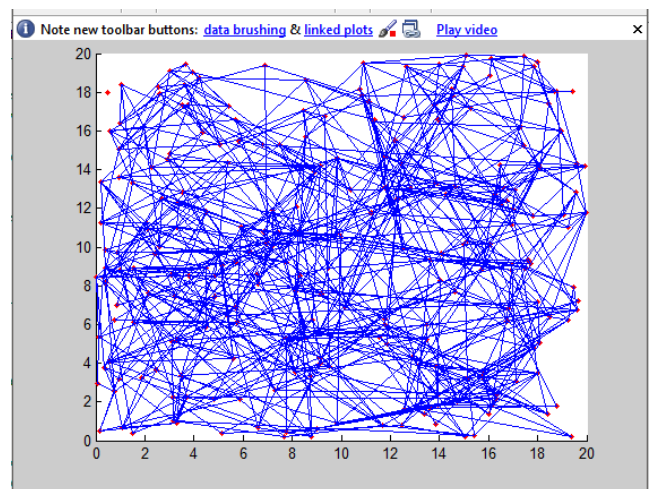


Figure 2. Result of Automatic Topology Generation with 400 Nodes

The traffic patterns received from MATLAB and the Network were so it can be deduced that both work on the same algorithm in the same way and generate the same patterns. It provides a conclusion about the Beehive network protocol that either result of any significance, its behaviour in Virtual as well as real networks is easily traceable due to similarity concepts. Different experiments were set up to utilize them for use in the real world. And those experiments are key for the implantation of new and intelligent routing protocols as our results in the simulation then we can have intelligent protocols that are going to be the best intelligence-based routing protocols. From our current acknowledgement, it is for the first time that old mindsets have been defeated. It was

the mindset of the telecommunication industry that we cannot achieve such a high standard of intelligence-based routing protocols with the utilization of current hardware and software resources. All doubts have been proven wrong from real-world networks and virtual machine experiments. This is just the beginning our findings will help more and more to improve the performance of routing protocols in larger networks. Our current findings or result are fascinating simulations of the implementation of such ideas. For now, in order to analyze the scalability behaviour of our algorithm introduces new reference topologies that are already working and compare the behaviour of our TEAM algorithm.

## V. CONCLUSION

The telecommunication sector is facing different challenges which are briefly described by keeping in view the subscribers' usage of multimedia and integrated services of wireless networks. The common challenges are to implement the intelligent routing algorithms for 5G network topology generation automatically according to the number of nodes. In this work, we reviewed our previously designed algorithm TEAM for the generation of topologies automatically using artificial intelligence for present and future wireless networks. We conclude this study with the future challenges of applying AI to Wireless 5G networks. Our current findings or result are fascinating simulations of the implementation of such ideas. For now, in order to analyze the scalability behaviour of our algorithm introduces new reference topologies that are already working and compare the behaviour of our TEAM algorithm.

## VI. FUTURE WORK

There are some issues in the results of topology generation in wireless networks with different configurations. As a result, the user has to take a deep look at the examination to get the same results when using multimedia services in hybrid networks.

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