

ABSTRACT

At this time the existence of wireless communication system was important thing to be occurred. Bluetooth is wireless technology that operates in 2.4 GHz of frequencies with low power and little cost. In the beginning time bluetooth wireless technology was used as roles of cable devices replacement, but in the grown of bluetooth technology, it could make personal network is called piconet. Piconet contains one master and seven unit slaves. It possibly builds a larger network which is called scatternet as a multiple-piconet. The scatternet formation protocol had not been specified in bluetooth specification. So many researches have been proposed in scatternet formation protocols which the one called bluenet and another one called bluetrees.

Both of formation protocols have a different topology result. The different could be observed from the roles number of each node. The roles could be master, slave and bridge node. The different of scatternet topology structure will effect in network performance. Because of that reason is necessary to make comparison of performance by both of scatternet formation protocol resulted. In this final task will make some performance comparison from the both of scatternet formation bluenet and bluetrees. The index effectiveness based on scatternet topology structure from both algorithms. The index parameter consists of shortest path range, maximum flow, and scatternet formation time to get fully connected.

Simulation show the effect of scatternet parameter resulted by both of algorithm. From that point it shows that bluenet algorithm build topology with better performance at shortest path ratio near up to 1 and more stable maximum traffic flow parameter up to 700 Kbps in mean and under 200 Kbps in deviation. However, in bluetrees algorithm scatternet formation time will be shorter than bluenet algorithm within 6 s periods at 50 numbers of nodes.