

## ABSTRACT

Bluetooth is a short range wireless communication system with 1 Mbps maximum gross bit rate. Radio range of a bluetooth device vary up to 100 m. Inter device data communication can be done without any infrastructure. But this communication requiring minimum a piconet.

A piconet consist of a node as master and maximum another seven node as slave. Master have responsibilty to control all operation and data communication within its piconet. Piconets can merge into a scatternet. This done to handle more nodes and cover larger area. Connection between two piconets can only be done via a node that act as bridge. But there is inter piconet synchronization process in this bridge. This process can reduce data transfer rate in bridge.

A good scatternet must have maximum data troughput, covering many node and vast area, formed with minimum time and energy, and capable of handling dynamic network condition. To fulfill these criteria, scatternet must be formed with scatternet formation algorithm. There are two suitable algortihm, BTDSP and BTSpin. This final task is comparing both algorithm. Comparation will be done in actternet formation and healing delay, number of piconet, bridge, link, slave, and temporary piconets.

Conclusion can be get from simulation and analysis. BTSpin algorithm is superior in number of alternative route, better intra-piconet communication, and faster full scatternet formation rather than BTDSP algorithm. Meanwhile BTDSP algorithm is better in inter-piconet communication performance, smaller source required for full scatternet formation, and better data troughput rather than BTSpin algorithm.