

ABSTRACT

We find many peoples today often carrying numerous portable electronic devices, such as notebook computers, mobile phones, PDAs, digital cameras and mp3/CD/VCD/DVD players, used to help and entertain in professional life as well in private life. Such a network of personal devices is often referred a Personal Area Network (PAN) enable these devices to interact and create a network with another PAN(s). Moreover, access to the internet via LAN which connected to an IP backbone or via 3G UMTS mobile phone would enable the PAN to constantly on-line.

Bluetooth is the strongest candidate to provide such network as PAN. Bluetooth units communicate between pico cells (with the radius of 10 meters) which called piconet (or can be referred as a PAN). A group of piconet may form a scatternet (or can be referred as wireless ad hoc network). One of the factor that determine network performance is the value of network delay time.

This paper analyze delay time for numerous scatternet topology and set of link capacities which obtain from scatternet forming and scatternet capacity assignment simulation. Through simulation and analysis we can conclude the best scatternet topology and assign suitable capacities of wireless ad hoc network to obtain minimal value of network delay time.