ABSTRACT

Delay Tolerant Network (DTN) initially projected as a concept used for interplanetary communication, also known as deep space network or interplanetary internet. Because it's initially projected for extremely long range communication, DTN is able to overcome obstacle in interplanetary communication which are not limited to delay. Because of that, several terms such as disuption tolerant network(with same acronym, DTN) and challenged network could also be used. Based on its capability, the future holds great deals of application and development for DTN. So that research on DTN, either application or network modelling would contribute substantially on future development of DTN.

This research mainly discuss about usability of NS3 to analyze epidemic and static routing protocol with IBR-DTN. In this research, every DTN nodes in NS3 will be connected with Virtual Machine so that every nodes work in accordance to real-life DTN nodes. As for why NS3 was selected as network simulator for DTN network was based on realistic channel model, scheduled update, and usage of network stack. The goal for this project was testing the capability of NS3 as DTN simulator and connecting NS3 environment to external network node. This reseacrh utilize IBR-DTN as DTN software and as a second objective, tries to compare the capability of epidemic routing protocol and static routing protocol by comparing the performance of each routing protocol by measuring delivery time using varying TTL, bundle, and file size.

This research conclude that different file size and different bundle size gives significantly different result when applied to 2 different routing protocol. There are significant difference between epidemic and static routing protocol if we compare the delivery time and maximum file size they can send

Keywords: DTN, NS3, Network Simulator, Epidemic, Static