PERFORMANCE EVALUATION OF AD-HOC ON-DEMAND DISTANCE VECTOR (AODV) ROUTING PROTOCOL ON HYBRID AD HOC HYBRID NETWORK

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ABSTRACT

In Mobile Ad-hoc NETwork (MANET), mobile nodes can communicate through wireless interface while those nodes move freely without using any network infrastructure. Each nodes beside function as host, can be function as a router too which is can receiving and forwarding a packet to the next node. Hybrid ad hoc network is a mixed network between infrastructure network and MANET that enable a mobile node to communicate with another node through access point (AP). So that the covered area of the network is becomes larger. Functionalities of ad hoc network very much dependent on the routing protocol that determines the routing around node. Ad-hoc On-demand Distance Vector (AODV) is one of reactive routing protocol kind for ad hoc network, where the network route will be made only if needed. When a source node wants to deliver a packet to a destination node. AODV enable mobile node get a route to the new destination quickly.

This final project analyze about performance of Ad-hoc On-demand Distance Vector (AODV) routing protocol in a hybrid ad-hoc network with simulation method using Network Simulator-2 (NS-2) software. Parameter that used as performance indicator are Packet Delivery Ratio (PDR), Normalized Routing Load (NRL) and Average End to End Delay.

In general, results obtained from the simulation of AODV protocol using Network Simulator NS-2 are packet delivery ratio 92.22% for CBR trafik type and 97.32% for TCP, end-to-end delay of 4.21 milliseconds for CBR and 27.97 milisecond for TCP, and normalized routing load of 0.15 for CBR and 0.04 for CBR. The different characteristic of traffic type makes the different value in each parameter that used.

Keyword: Ad Hoc, MANET, AODV, Hybrid Ad-hoc