

## ABSTRAK

*Mobile ad hoc network* (MANET) adalah sebuah jaringan *wireless* yang tidak memerlukan infrastruktur dalam pembentukannya. Jaringan ini bersifat dinamis dan juga spontan. Jaringan ini memiliki beberapa protokol *routing*, salah satunya adalah protokol *Destination Sequenced Distance Vector* (DSDV) dan *Optimized Linkstate Routing* (OLSR), Protokol DSDV dan OLSR termasuk *table driven routing protocol* (*proactive routing protocol*). Setiap *node* mengetahui semua rute ke *node* lain yang berada dalam jaringan tersebut.

Penulis menguji kinerja dari protokol DSDV dan OLSR dengan menggunakan simulator (NS2). Parameter yang akan diukur adalah *average throughput* jaringan, *average delay* jaringan, *packet delivery ratio* (PDR), dan *hop routing* yang terjadi berbanding dengan penambahan jumlah *node*, jumlah koneksi, dan luas area jaringan. Parameter jaringan bersifat konstan dan akan digunakan terus pada setiap pengujian, sementara parameter yang berubah seperti jumlah *node* dan jumlah koneksi akan dibentuk secara *random*.

Hasil pengujian menunjukkan Protokol DSDV memiliki kinerja yang lebih baik saat jaringan kecil sedangkan OLSR di jaringan besar. Penambahan area jaringan dan penambahan *node* berpengaruh terhadap meningkatnya nilai *average delay*, *average throughput*, PDR, dan jumlah *hop routing* yang dihasilkan baik protokol DSDV maupun OLSR. Penambahan koneksi berpengaruh terhadap meningkatnya nilai *average delay* jaringan yang dihasilkan baik protokol DSDV maupun OLSR. Penambahan *node* dan koneksi tidak berpengaruh terhadap nilai PDR dan jumlah *hop routing* yang dihasilkan baik protokol DSDV maupun OLSR.

Kata kunci : *Ad Hoc network*, *DSDV*, *OLSR*, *average throughput*, *average delay*, *packet delivery ratio* (PDR), dan jumlah *hop routing*.

## ABSTRACT

Mobile ad hoc network (MANET) is a wireless network that does not need any infrastructure in forming. These networks are dynamic and also spontaneous. These networks have some routing protocol, one of the protocols is *Destination Sequenced Distance Vector (DSDV)* and *Optimized Linkstate Routing (OLSR)*. DSDV and OLSR protocols include *table driven routing protocol (proactive routing protocol)*. Each node knows all the routes to other nodes within the network.

The author tested the performance of DSDV and OLSR protocols by using a simulator (NS2). Parameters that will be measured are the average of network throughput, average of network delay, packet delivery ratio, and count *hop* routing is equal with the additional node, amount of connection, and wide area network. Network parameters are constant and will continue to be used in each test, while the parameters which changed like the number of nodes and the number of connections will be set random.

The test results showed DSDV protocol has better performance when small networks while OLSR in large networks. Addition of area network and node additions affecting an increasing value of average delay, average throughput, PDR, and the number of routing *hops* produced both DSDV and OLSR protocols. The addition of connections affects the average delay value increases resulting network both DSDV and OLSR protocols. The addition of nodes and connections do not affect the value of the PDR and the number of routing *hops* produced both DSDV and OLSR protocols.

Keywords : Ad hoc network, DSDV, OLSR, average throughput, average delay, packet delivery ratio (PDR), and count *hop* routing.