

ABSTRAK

Opportunistic Network (OppNet) merupakan jaringan *wireless* yang tidak membutuhkan infrastruktur dalam pembentukannya. Pada *Opportunistic Network* tidak menjamin adanya jalur antara source dan destination setiap saat dikarenakan node selalu bergerak dan terus berpindah (mobile).

Pada penelitian ini penulis melakukan pengujian terhadap Routing Protokol Epidemic dan Routing Protokol Spray and Wait dengan menggunakan ONESimulator. Parameter yang digunakan adalah *Delivery Probability*, *Overhead Ratio*, *Average Latency*, *Buffer Occupancy*, dan *Messages Drop*. Skenario yang digunakan pada setiap pengujian adalah luas area yang tetap dengan penambahan jumlah node, penambahan ukuran *buffer*, penambahan *Time-To-Live* (TTL), penambahan jumlah *copy message* (L Copy), dan penambahan jumlah node dan jumlah copy (30%).

Pengujian menunjukkan Protokol Routing Epidemic mengalami peningkatan pada *Delivery Probability* dan *Average Latency* yang baik, hal itu dikarenakan Epidemic selalu memberikan *copy message* setiap kali bertemu dengan relay node tanpa mempedulikan *resources*. Sedangkan Protokol Routing Spray and Wait bagus pada *Overhead Ratio*, hal itu dikarenakan Spray and Wait membatasi jumlah copy message yang diberikan kepada relay node untuk mengurangi *cost* pada Routing Epidemic. Tetapi *Latency* pada Spray and Wait menjadi sangat tinggi dibandingkan dengan Epidemic, hal itu dikarenakan Spray And Wait membatasi jumlah copy dan ada fase Wait.

Kata Kunci: *Opportunistic Network*, Epidemic, Spray and Wait, *Delivery Probability*, *Overhead Ratio*, *Average Latency*, *Buffer Occupancy*, *Drop*.

ABSTRACT

Opportunistic Network (OppNet) is a wireless network that does not need any infrastructure in the formation. Opportunistic Network can not guarantee a path between the source and the destination because the node always and keep moving (mobile).

In this research, the researcher tested the Epidemic Routing Protocols and Spray and Wait Routing Protocol using ONEsimulator. The parameters used are Delivery Probability, Overhead Ratio, Average Latency, Buffer Occupancy, and Number of Drop Messages. The scenarios used in each test is the width of the remain area with the increase number of nodes, increase of the buffer size, the addition of the Time-To-Live (TTL), increase number of copy message (L Copy), and the increase number of nodes and copies (30%).

Epidemic Routing Protocols Tests showed the good improvement of Delivery Probability and Latency Average Probability, because Epidemic Routing Protocol always provides copy messages whenever it met a relay node without regarding the resources. While Spray and Wait Routing Protocols shows a good result on the Overhead Ratio, because Spray and Wait limit the number of copy message given to a relay node to reduce cost on the Epidemic Routing. However the Latency on Spray and Wait become very high than the Epidemic, which is caused by the Spray and Wait that limit the number of copies and the Wait phase availability.

Keywords: Opportunistic Network, Epidemic, Spray and Wait, Delivery Probability, Overhead Ratio, Average Latency, Buffer Occupancy, Messages Drop.