

Analisis unjuk kerja wireless mesh network dengan routing protocol OLSR.= Performance analysis of wireless mesh network with OLSR routing protocol

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Abstrak

Dengan seiring perkembangan teknologi wireless dalam jaringan komputer maka kebutuhan user akan teknologi dengan kemampuan reliabilitas yang tinggi juga semakin meningkat. Skripsi ini merancang dan membangun sistem testbed untuk wireless mesh network yang menggunakan routing protocol Optimized Link State Routing (OLSR). Bentuk topologi jaringan yang dipakai adalah infrastructured wireless mesh network menggunakan beberapa buah wireless router LinkSys yang telah dimodifikasi dengan menggunakan firmware opensource bernama OpenWRT. Testbed yang telah dibangun digunakan untuk menguji performansi routing protocol OLSR dalam self-configure dan self-healing serta performa wireless mesh network secara keseluruhan serta performansi jaringan secara keseluruhan untuk parameter-parameter seperti throughput, latency serta jitter melalui beberapa skenario pengujian tertentu. Berdasarkan data pengujian dari performansi wireless mesh network seperti kemampuan self-configure dan self-healing yang lebih dipengaruhi oleh parameter nilai interval HELLO message. Sedangkan performansi wireless mesh network dalam pemakaian bandwidth, latency, throughput dan jitter lebih dipengaruhi akan posisi node pada jalur data dalam sistem multihop.

Along with the development of wireless technology in computer communication the needs of networks with a high reliability performance is also increased. This final project designs and builds a testbed system for wireless mesh network with OLSR routing protocol. The network topology use the infrastructured wireless mesh network using some LinkSys wireless router that had been modified with an opensource firmware called OpenWRT. The testbed will be used for testing the OLSR routing protocol performances in self-configure and self-healing also the performance of the whole network with parameters such as network throughput, latency and jitter. Based on the experiment datas from the testbed scenarios, the performances of wireless mesh network such as self-configure and self-healing ability of the mesh network are influenced by the HELLO message interval parameter. And for the performances such as bandwidth, latency, throughput and jitter are mostly influenced by the position of the node in the data router of the multihop system.