Analisis performansi jaringan Bidirectional Tunneling mobile IPv6 dengan serangan distributed denial of service pada aplikasi FTP = Performance analysis of Bidirectional mobile IPv6 with distributed denial of service attack on FTP application

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Abstrak

Mobile IPv6 merupakan komunikasi perangkat mobile yang memungkinkan koneksi tetap terhubung meskipun berpindah dari Home Network ke Foreign Network. Dalam mempertahankan koneksi, terdapat berberapa metode, salah satunya adalah Bidirectional Tunelling. Jaringan Bidirectional mobile IPV6 dengan aplikasi FTP yang di rancang akan diuji performanya dengan serangan Distributed Denial of Service yang dibedakan besar paket data serangannya. Parameter pengukuran yang digunakan adalah transfer time, delay, throughput, dan packet loss. Transfer time, delay, dan packet loss di Home Network saat diserang DDoS 2600KB mencapai kenaikan 392.78%, 372.46%, dan 11446.48. Sedangkan throughput di Home Network saat diserang dengan DDoS 2600KB mencapai penurunan 77.83%. Performansi jaringan dengan aplikasi FTP di Home Network memiliki kinerja yang lebih baik dibandingkan di Foreign Network. Dari hasil pengukuran dapat disimpulkan semakin besar paket data serangannya maka semakin berpengaruh terhadap buruknya parameter tersebut. Namun dengan semakin besarnya paket data serangan maka semakin lama pengiriman flooding paket data tersebut akibat pemrosesan yang semakin berat juga. Hal tersebut yang mengakibatkan perbedaan persentase terlalu signifikan pada paket data serangan yang terlalu besar.
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Mobile IPv6 is a communication between mobile devices which allow the connection stays alive even move from the Home Network to the Foreign Network. In maintaining the connection, there are some of methods, one of them is Bidirectional Tunneling. Bidirectional mobile IPv6 network with FTP application which is designed will be tested its performance with the Distributed Denial of Service attack which is distinguished its large attack data packets. Measurement parameters used are the transfer time, delay, throughput, and packet loss. Transfer time, delay, and packet loss in the Home Network when its attacked with DDoS 2600KB increase 392.78%, 372.46%, and 11446.48%. While the throughput in the Home Network when its attacked with DDoS 2600KB decrease 77.83%. This network performances with the FTP application in the Home Network has a better performance than in the Foreign Network. The measurement result, bigger attack data packet which is used will be more powerful against bad that parameters. But bigger attack data packet make sending flood data packet slower because the process is harder too. This thing that causing the percentage difference is not too significant on attack data packet which is too big.