ABSTRACT

Abstract-Technological developments and advances provide convenience to human life towards Software Defined Network (SDN) which is a new innovation. SDN is a new concept in network architecture for managing, designing, and implementing networks. Besides providing advantages, SDN has a disadvantage that is quite risky, which is easily attacked by Distributed Denial of Service (DDoS). Distributed Denial of Service (DDoS) is one of the attacks that can attack components in the SDN architecture. Therefore, preventive steps are needed to minimize attacks or mitigation steps if an attack has occurred, the first step in the research is to know and be able to implement the preparation of DDOS attacks that are able to carry out effective and efficient DDoS attacks on SDN so that they can carry out appropriate mitigation to overcome these attacks, As for the methodology used in the research using PPDIOO, which is a network planning life cycle developed by Cisco, the type of DDoS attack used is volumetric, namely launching attacks by flooding bandwidth and creating traffic jams using large volumes. When the bandwidth is full and loses traffic control, the server system will automatically go down, which consists of 3 types of attacks, namely ICMP flood, UDP flood and TCP flood. From the test results prove that the beginning of the attack occurs under 4 seconds for each type of attack, the most effective and efficient in carrying out DDoS attacks is the UDP attack with 20 hosts where the first time it is attacked at 1 second 19 ms, with a packet loss of 98.1% and the host does not respond or the service stops at 19 seconds 17 ms, the highest attack time interval of 383151 ms.

Keywords-SSDN, DDoS, PPDIOO, ICMP flooding, UDP flooding and TCP flooding