ABSTRACT

Information technology develops very quickly, especially the Internet. But the development of information technology used by hacker for getting certain information. To handle attacks such as scanning, FTP *brute force* and DDoS Attack a Network Intrusion Prevention System (NIPS) is required.

The solution offered is to build Intrusion Prevention System (IPS). IPS is able to detect and handle attack from hacker. In this research using suricata and snort to detect attacks such as DOS attack, port scanning and FTP brute force. From attack result can be analyzed performance analysis and calculating security metrics using VEA-bility method. Result from VEA-bility method is value 0 until 10 obtained from calculation value of vulnerability dimension, exploitability dimension and attackbility dimension. Value of VEA-bility determine the level of system security. In this experiment of VEA-bility we got 3.071218108 score from topology without firewall, 5.976053115 score from separated server topology without firewall, and 6.809386448 score from separated server with firewall topology. CVSS value snort on DOS *attack* has a value 1.866666667, *port scanning* has a value 0.266666667, FTP *brute force* has a value 4.333333333. CVSS value suricata on DOS *attack* has a value 1.833333333, *port scanning* has a value 0.266666667, FTP *brute force* has a value 4.266666667.

Keywords: Intrusion Prevention System (IPS), security metric, VEA-bility