

Abstract

Intrusion Prevention System (IPS) is a tool to secure the network against malicious packets sent from a host. IPS can be installed in SDN network that has a centralized logic architecture, so that the IPS does not need to be installed at many points it is installed adjacent to the central logic controller as a network. But there is a lack of IPS that is the duration of the block will always be the same, no matter how often a host to attack. In this thesis, we created a system that not only integrates IPS SDN, but also designing adaptive IPS by using fuzzy logic to decide how long to block based on a variable frequency and type of attack is given. From the testing that has been done, SDN network that has been equipped with adaptive IPS has the ability to detect cyber attacks and also can block the attacker host with a duration corresponding to the frequency and types of attacks that have been carried out. The end result obtained is to make the SDN network safer by adding 0.228 milliseconds as the execute time required for the fuzzy algorithm in one process.

Keyword: IPS, logika fuzzy, Ryu, SDN, serangan cyber, Snort