

## ABSTRACT

Asterisk is an IP PBX with full featured software. It connects one telephone with another telecommunication equipment. As a PBX server, Asterisk can be connected with analog PSTN such as POTS central. Beside as a PBX function, Asterisk can be configured as VOIP server.

Compared with traditional PBX, Asterisk has many advantages. For example, the cost of operational is cheaper, high reliability, easy to use, and interoperability to another equipment which have supported a lot of hardware. Used as a VoIP server, Asterisk can handles all of packet which coming in or out.

With all of advantages that asterisk has, it doesn't mean that Asterisk server has no weakness. One issue that should be concerned is about the security system. Asterisk server and VoIP link itself still have vulnerability to get illegal access by attacker or intruder. Started with the flooding attack, eavesdropping until the most scariest attack, that is DoS Attack.

Considering Asterisk server has a main role, we hence need more security which has to be implemented to the system. In this research, it has been implemented the scenario of how to make an Asterisk server and VoIP communication secure. There are several attacking method to be implemented in VoIP network and server, such as flooding, packet intercepting, and Denial of Service Attack.

Later, the parameter of VoIP communication in extreme condition are calculated. After that, the logged performance is compared with the normal condition. Thus, as a follow up, the security modul is implemented to the system. From this research, it is seen that the Flooding attack and Denial of Service attack can stop the server activity, so it can not handle the VoIP communication. But, the implementation of firewall module can minimize the effect of flooding up to 23% and eliminate the effect of DoS attack.

**Keyword** : Asterisk, PBX, VoIP, server, attack, Infrastructure Denial of Service, Eavesdropping, Network and Application Intercepting, Disruption of Service, Signalling and Media Manipulation, dan Spamming.