
Abstract

In educational environment like a campus where students study and conduct research, facilities like networks and computers are provided to make it easier to support these activities. It will normal when many activities on local area networks (LAN) and public are monitored by security systems. In Faculty of Information Technology and Business (FTIB) absolutely someday there will be an attack to server which could come from anywhere and can affected the performance of the FTIB server.

Result of NAC system applied to prevent this, Network Access Control (NAC) system is needed which is accompanied by firewall and Intrusion Detection System (IDS) in anticipating attacks to FTIB server which affect server performance. This NAC system uses FortiGate to control network traffic, perform identity checks and establish access policies. This research use simulation with based topology in FTIB.

Result for authentication system to the local network, it can restrict certain users to connect. Results for firewalls with policy rules, not all users can access certain ports and for IDS, gain accuracy values of 43% for public networks and 94% for local networks. Even theres a difference in percentage, FortiGate succeeded in clearing the attack so FTIB server performance remained stable.

Keywords: network access control, firewall, IDS, computer network
