

ABSTRACT

Along with technological developments, network security systems must also always be improved, there are many attacks from irresponsible parties who can easily access and control unsecured ports. So to overcome this attack, the port knocking method is used. The port knocking method will open and close block access to certain ports by entering the rules that have been made in the firewall feature. The test parameters in this study will be applied to service ports 8291, 80 and 23, and in analyzing these results using QoS parameters during normal conditions, port knocking off and port knocking on. The highest throughput value during normal conditions is 2647 Kbps, for port knocking off conditions the highest throughput value is 1189 Kbps, and for port knocking on conditions the highest throughput value is 2043 Kbps. To test the packet loss value, a value of 0% is obtained in normal conditions while in port knocking (off) conditions it has a packet loss value of 0.3%, and for port knocking on conditions, a packet loss result of 0.1% is obtained. The results of the delay measurement show that the delay value in the smallest normal condition is 1,043 ms, for the port knocking off condition the smallest delay measurement is 5,023 ms and the port knocking on condition the smallest delay measurement is 3,974 ms. From the results of jitter measurements, it is known that the jitter value in the smallest normal condition is 1,04 ms, for the port knocking off condition the smallest jitter measurement is 5,02 ms and the port knocking on condition the smallest jitter measurement is 3,97 ms. From the results of the port knocking test, it was found that the user cannot access ports 8291, 80, and 23 if port knocking has been installed, the user must unlock it first if he wants to access the port. The lock can only be opened if the user knocks 5555. And from the port scanning test, it is found that the service port that has port knocking installed is already closed. And the results of QoS with the port knocking method can be categorized as efficient, because it can provide an overview of efforts to repair and overcome traffic caused by attackers.

Keyword: Network Security, Port Knocking, Port Scanning