Abstract

Computer network security is now a days gaining popularity among network users. Organizations are spending more time and money for securing their information. Security is also more considered by the network researchers due to the importance of network security has grown unbelievably. Finite Automata or the state machine is a mathematical model to designing computer software and sequential logic circuits. FSA uses pattern for filtering. A pattern is a group of characters that exist along with the malicious programs. Pattern matching is the process of matching the incoming packet contents with the known patterns of the malware. In this paper we have tried to explain the firewall which improves the security with faster firewall mechanism. Our proposed solution provides filtering according to the keyword and port number. Also we have proposed new feature for the LAN users that is any user can interact with the other user of the same server. We have tried to propose a firewall which is dynamic where we can change the filtering rules. Previous work is limited when there is dynamic changes needed to the firewall. Also the important improvement is related to the time duration. Our proposed solution with FSA (Finite State Automata) regular expression takes less time for filtering of the
packet compare to the algorithm which doesn't use the FSA.

References

11. Pierluigi Rolando, Riccardo Sisto, Member, ACM, and Fulvio Risso," SPAF: Stateless FSA-Based Packet Filters", IEEE/ACM TRANSACTIONS ON NETWORKING, VOL. 19, NO. 1, FEBRUARY 2011
12. C. Jasmine, Dr. T. Latha,” Finite Automata in Pattern matching for Hardware based NIDS Applications – a Tutorial and Survey", Progress In Science in Engineering Research Journal,PISER 12, Vol.02, Issue: 02/06 March- April; Bimonthly International Journal Page(s) 351-360
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