# INTRUSION DETECTION BY PORT SCAN USING SNORT

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# Intrusion detection by port scan using Snort

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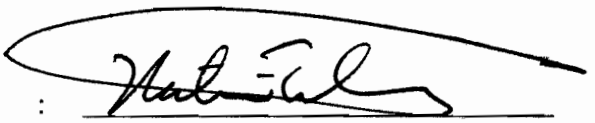
*(Signature)* : 

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# Abstract

Network intrusion detection systems (NIDS) are an important part of any network security architecture. They provide a layer of defense which monitors network traffic for predefined suspicious activity or patterns, and alert system administrators when potential hostile traffic is detected. Network Intrusion Detection Systems (NIDS) perform deep packet inspection on packet payloads to identify, prevent, and inhibit malicious attacks over the Internet[1]. Snort is a lightweight intrusion detection system that can log packets coming across your network. This program can be used on smaller networks but on larger ones, with Gigabit Ethernet, snort can become unreliable. Snort doesn't require that you recompile your kernel or add any software or hardware to your existing distribution but it does require that you have root privileges.

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# ABBREVIATIONS

| | |
|---|---|
| CIDR | Classless InterDomain Routing |
| CPU | Central Processing Unit |
| DDOS | Distributed Denial-of-Service |
| DHCP | Dynamic Host Configuration Protocol |
| DNS | Domain Name Service |
| FTP | File Transfer Provider |
| HTTP | HyperText Transfer Protocol |
| ICMP | Internet Control Message Protocol |
| IDS | Intrusion Detection System |
| IIS | Internet Information Services |
| IP | Internet Protocol |
| IRC | Internet Relay Chat |
| ISP | Internet Service Provider |
| NAT | Network Address Translation |
| NSAT | Network Security Analysis Tool |
| NSM | Network Security Monitor |
| ROC | Relative Operating Characteristic |
| RPC | Remote Procedure Call |
| SMB | Server Message Block |
| SMTP | Simple Mail Transfer Protocol |
| SSH | Secure Shell |

TCP Transmission Control Protocol

TRW Threshold Random Walk

UDP User Datagram Protocol

UPnP Universal Plug and Play

PCRE Perl Compatible Regular Expressions

NIDS Network Intrusion Detection System

HIDS Host-Based Intrusion Detection System

GNU Government of National Unity

CGI Common Gateway Interface

SMB Server Message Block

LAN Local Area Network

ACID Analysis Console for Intrusion Databases

PHP Hypertext Preprocessor

NFR National Finals Rodeo

Cisco Computer Information System Company

SLIP Serial Line Internet Protocol

TFTP Traffic File Transfer Provider

SYN Synchronize

FIN Freedom to Innovate Network

CSV Comma Separated Value

# Chapter 1

# Introduction

## 1.1 Preamble

Security is a big issue for all networks in today's enterprise environment. Hackers and intruders have made many successful attempts to bring down high-profile company networks and web services. Many methods have been developed to secure the network infrastructure and communication over the Internet, among them the use of firewalls, encryption, and virtual private networks. Intrusion detection is a relatively new addition to such techniques.

Intrusion detection methods started appearing in the last few years. Using intrusion detection methods, you can collect and use information from known types of attacks and find out if someone is trying to attack your network or particular hosts. The information collected this way can be used to harden your network security, as well as for legal purposes. Both commercial and open source products are now available for this purpose. Many vulnerability assessment tools are also available in the market that can be used to assess different types of security holes present in your network. A

The contents of the thesis is for internal user only

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