DATA COMMUNICATION NETWORKING AND SECURITY POLICIES
NETWORK INTRUSION DETECTION SIGNATURES

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Abstract

The topic "**data communication networking and security policies**" is a well explained field for attacks, defenses and access controls .This topic presents a novel approach to automatically perform black box testing of "network intrusion detection signatures". We start presenting the idea behind our methodology, providing a thorough comparison with existing testing techniques like fault injection and mutation testing.

The importance of network security has grown tremendously and a number of devices have been introduced to improve the security of a network. Network intrusion detection systems (NIDS) are among the most widely deployed such system. Popular NIDS use a collection of signatures of known security threats and viruses, which are used to scan each packet's payload. Signature based designs have low false positive rates, and they are effective and accurate in combating against the known security threats. However, they remain completely ineffective against those attacks that are yet unknown; these can be combated only after they are detected manually and a signature is created for them.

Since new threats are potentially more lethal, a number of pro-active designs have been proposed, which can detect new security events such as propagation of a new and unknown virus or worm. Such systems accomplish this by creating a profile of normal Internet traffic, and then using this profile to continuously monitor the network activity for suspicious activity. As the system senses an anomaly, or a dramatic change in traffic characteristics, it takes certain actions such as raising an alarm or discarding certain traffic. In this Survey paper we will evaluate a number of current NIDS systems and the algorithms they employ to detect and combat security threats, both from technical and economical perspective paper.