

# Methods for Preventing DDoS Attacks in Cloud Computing

Aws Naser Jaber , Mohamad Fadli Zolkipli

Universiti Malaysia Pahang, Lebuhraya Tun Razak, 26300 Gambang,

E-mail: awscomputer2009@gmail.com

Distributed Denial of Service (DDoS) are attacks in networks that cause major performance disturbance. Intrusion prevention system (IPS) are tools for deployment and the correct placement of IDS/IPS systems on networks is of great importance for optimal monitoring and achieving maximum effect in protecting a system. In order to predict network anomalies, we propose using a PCA-preprocessing and covariance analysis to divide historical data of a network. Then, rough set-based rules are applied for predicting the behavior of future data in the network in order to best respond to predicted attack threats. The methods advanced are intended to be simple, allowing flexibility in how they are applied to networks and predicting attacks while limiting computational overhead.

**Keywords:** DDoS attacks, cloud computing, Principal Component Analysis, covariance matrix, rough set.