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Contemporary PCA and NBA based Hybrid Cloud Intrusion Detection System

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Abstract

INTRODUCTION: Cloud computing offers on-demand services, from which consumers can avail networked storage and computer resources. Due to the fact that cloud is accessed through internet, its data are prone to internal and external intrusions. Cloud Intrusion Detection System will now be able to classify each pattern of testing dataset as either normal or intrusive and in case of intrusion, it will identify the type of intrusion. By comparing each of these actual results with the expected results of testing dataset. It is strongly observing the inside-activities of a network. Hence, it is suitable for detecting intrusions in cloud environment. OBJECTIVES: Hybrid Cloud Intrusion Detection System can function well for a very huge dataset and it can also detect unknown attacks. To achieve the better performance in the cloud setting by utilizing this Cloud Intrusion Detection System. METHODS: To overcome performance issues, Principal Component Analysis and Network Behaviour Analysis are proposed. RESULTS: The experimental and performance assessment show that the proposed model is well planned, efficient and effective in finding cloud environment intrusions. An Intrusion Detection System (IDS) monitors all incoming and outgoing network activity to identifies any signs of intrusion in your system that could compromise your systems. CONCLUSION: Experiments are performed using a standard benchmark KDD-cup dataset and the findings are addressed. IDS helps the Network Administrator to track down bad guys on the Internet whose very purpose is to bring your network to a breach point and make it vulnerable to attacks.

Keywords:
Cloud computing, intrusion detection, principal component analysis, network behaviour analysis, genetic algorithm.

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