Abstract

Cloud computing is a type of distributed computing approach for IT Sector that leverages in efficient pooling of on-demand, self-managed virtual Infrastructures consuming them as a service by applications/organizations which would save thousands of dollars on CapEx and OpEx. To adopt this new cloud technology main concern for the consumers is the cloud computing security and it is the responsibility for the service providers to secure the cloud make it available at all time without interruption. In cloud computing all resources are virtualized by Hypervisor by creating Virtual machines, but its vulnerabilities raises many questions relating to security due to intrusion of malwares which allows security breaches. In this paper we propose Multi-Agent Intrusion Detection and Prevention System (MA-IDPS) by using Agents which will prevent security breach in Cloud due to attacks from intruder malware programs. Our system will be deployed at every instance of VM as well as at the client node end to detect and prevent intrusions due to malicious programs by an IDPS agents. This MA-IDPS model not only protects the cloud environment but also secures its agents and encrypts data tables that are part of IDPS by placing them in secure environment like Agent Runtime Environment (ARE) and Root VM respectively. MA-IDPS agent reports or prevents any abnormal behavior to Cloud administrator for further action. The proposed model secures the cloud from outside attacks either from client side or by a
malware programs created in VM's

References


Index Terms

Computer Science
Security

Keywords
Intrusion Detection, Agents, cloud computing, Hypervisor, Modified BM algorithm, DLP, Smart Agent, User behavior