Institute of IT-Security and Security Law

UNIVERSITÄT PASSAU
Fakultät für Mathematik und Informatik

Master Thesis

Secure Cloud Forensics

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Context

Virtual Machines (VM) in infrastructure-as-a-service (IaaS) based cloud environments are attractive targets for several kind of attacks.

In order to protect those machines and to get further knowledge about ongoing or past attacks is essential to have unfiltered access to the resources of a virtual machine, i.e., main memory, CPU registers and hard disk. However, cloud customers are not able to monitor their virtual machines as they do not have access to the main memory and storage without using the operating system which might be infected.

Topic

The main task of this thesis is to extend a cloud management software (e.g. OpenNebula) to allow customers to create forensic virtual machines that are able to access the memory of one or more of their virtual machines.

This thesis allows you to get familiar with Cloud management systems and to contribute to a public available software.

If you have further questions, contact us.

Keywords

Cloud, Virtualization, XEN, OpenNebula, Mandatory Access Control