

MODULAR SECURITY FOR OPENSTACK

OpenStack is the de facto standard for cloud infrastructures based on open source. Numerous renowned companies already operate their private and public cloud infrastructures based on this solution. Due to the multitude of configuration and deployment options, an OpenStack infrastructure can reach a high level of complexity. In addition, a provider is faced with the challenge of ensuring regular updates for the individual components. Although many reasons favor the usage of an OpenStack cloud, the required effort may oppose the advantages. Another reason against OpenStack - especially for highly safety-critical infrastructures - is the limited cryptographic protection of cloud resources. Both disadvantages that apply to a regular OpenStack distribution are addressed by **SecuStack**, which develops a modular solution.

SecuStack covers:

1. Best practices for hardening infrastructures
2. Selected security enhancements for cloud infrastructures
3. Lifecycle management for cloud infrastructures

STRUCTURE OF SECUSTACK

Due to the separation into **SecuStack Core** and **SecuStack Infra**, the adaptation into different environments is possible: SecuStack Core can be deployed as a security enhancement on top of existing OpenStack distributions. SecuStack Infra provides complete automation for the installation and maintenance of OpenStack infrastructures. In conjunction both parts form an independent OpenStack distribution.

SecuStack Core

Code Extensions



Vanilla OpenStack

Standard Components

SecuStack Infra

Infrastructure Management

TOPICS

Within the context of its development activities, SecuStack addresses the following topics:



Protected access to
the infrastructure

Isolation and protection
of Tenant Networks



Control of cryptographic
keys by the user

Encryption of user data
in the block storage



Encryption and
signing of Images

Hardening and protection of
the OpenStack infrastructure



CONTACT

The companies **secunet** and **Cloud&Heat Technologies** are the driving forces behind the development of SecuStack. The two partners combine their longstanding expertise in the fields of security solutions and the operation of OpenStack.



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