SafeCloud

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Secure and Resilient Cloud Architecture

@safecloudproject

SafeCloud Project

Motivation

Cloud infrastructures raise fundamental questions related to the privacy, integrity, and security of offsite data storage and processing tasks. There are major privacy and security concerns about data located in the cloud, especially when data is physically located, processed, or must transit outside the legal jurisdiction of its rightful owner. These questions are currently not answered satisfactorily by existing technologies.

Objectives

SafeCloud will re-architect cloud infrastructures to ensure that data transmission, storage, and processing can be:

- Partitioned in multiple administrative domains that are unlikely to collude, so that sensitive data can be protected by design;

- Entangled with inter-dependencies that make it impossible for any of the domains to tamper with its integrity.

These two principles (partitioning and entanglement) are applied holistically across the entire data management stack, from communication to storage and processing.

Partners

Platform Components

SafeCloud developed reusable components for ensuring full privacy for cloud computing services, at the following levels:

- Secure Communication

- Secure Storage

- Secure Processing

Products and Solutions

CLOUD&HEAT

Cloud&Heat integrates energy efficiency with state of the art safe cloud computing and storage services. Cloud&Heat emphasizes this within the SafeCloud project by integrating the secure communication and secure storage solutions of the SafeCloud platform into its own services.

maxdata

Maxdata develops and commercializes the CLINIdATA® healthcare software line of products. SafeCloud provides Maxdata a database with secure query processing and secure storage. With this solution, personal data is protected from potential adversaries such as cloud providers, hackers and unauthorized government agencies.

CYBERNETICA

Cybernetica is the developer of the Sharemind privacy-preserving analytics platform. On the SafeCloud project, Cybernetica explores a novel multi-cloud secure querying solution.

SafeCloud technologies

SafeCloud Technologies Sàrl is the Swiss start-up created to commercially exploit key results of the SafeCloud project. This start-up is developing a flexible cloud platform capable of different compromises between functionality, privacy, performance and scalability.

Project Information

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