Features of Cosmian KMS

Salitha Gunawardhana

salitha.gunawardhana@thakshana.com

October 9, 2024

Contents

1 Introduction

Cosmian KMS is a robust and highly secure key management system, designed to facilitate the generation, storage, and management of cryptographic objects. This document provides an overview of the following key aspects:

- **Key Features of Cosmian KMS**: An outline of the primary features that make Cosmian KMS a powerful solution for cryptographic key management.
- **System Architecture of Cosmian KMS**: A comprehensive diagram of the Cosmian KMS architecture.

2 Key Features of Cosmian KMS

Cosmian KMS offers several powerful features, including:

- Secure Keys and Certificates Management
- Encryption and Decryption Services
- Access Control of the Cryptographic Objects
- Client Side Communication
- Server Deployment Methods
- Database Management
- Operation Modes of the KMS Server

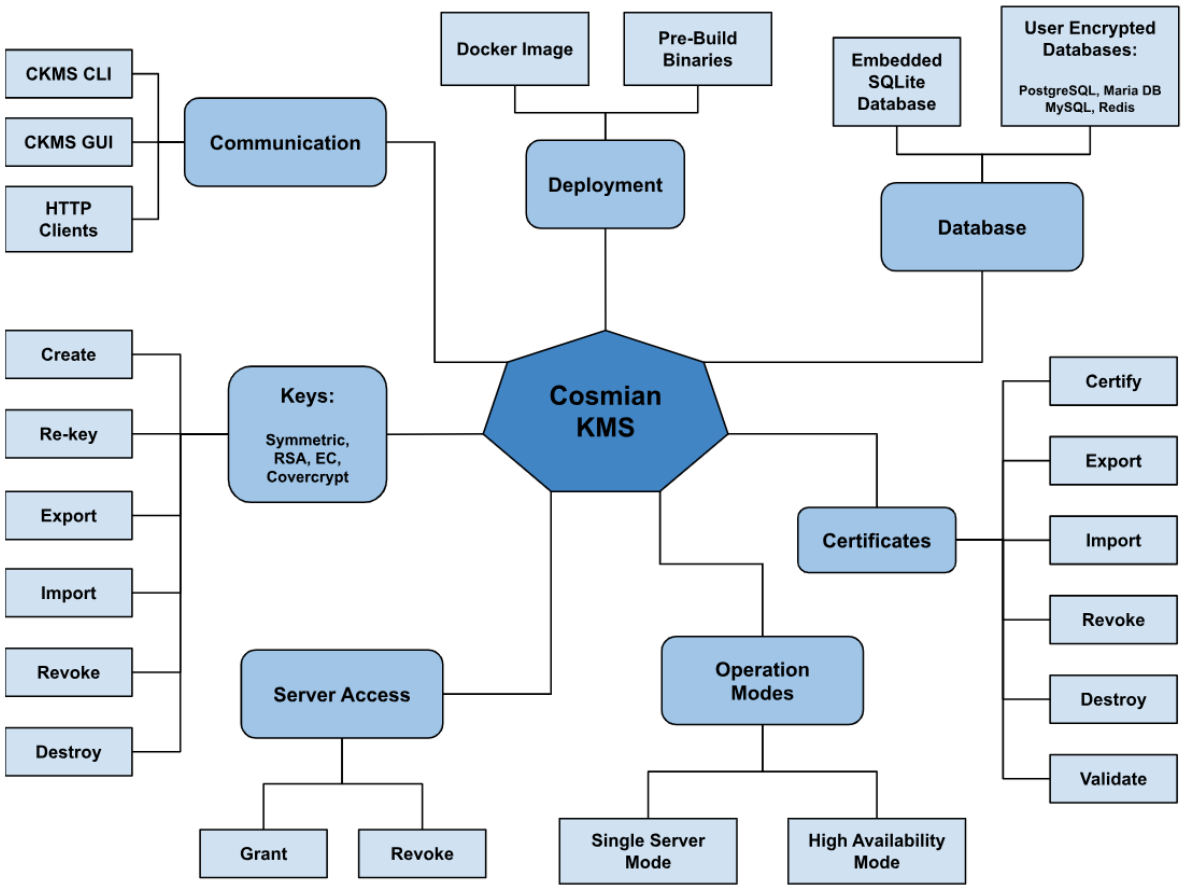

Figure 1: Key Features of Cosmian KMS

3 System Architecture of Cosmian KMS

The following diagram demonstrates the arrangement of the KMS and the communication flow between the KMS and the client. Here the KMS is deployed within a Docker container, hosted on a local machine. Cosmian KMS is designed to run securely in cloud or zero-trust environments. By using encrypted databases over Redis and running on Cosmian VMs, it ensures secure operation even in public cloud settings.

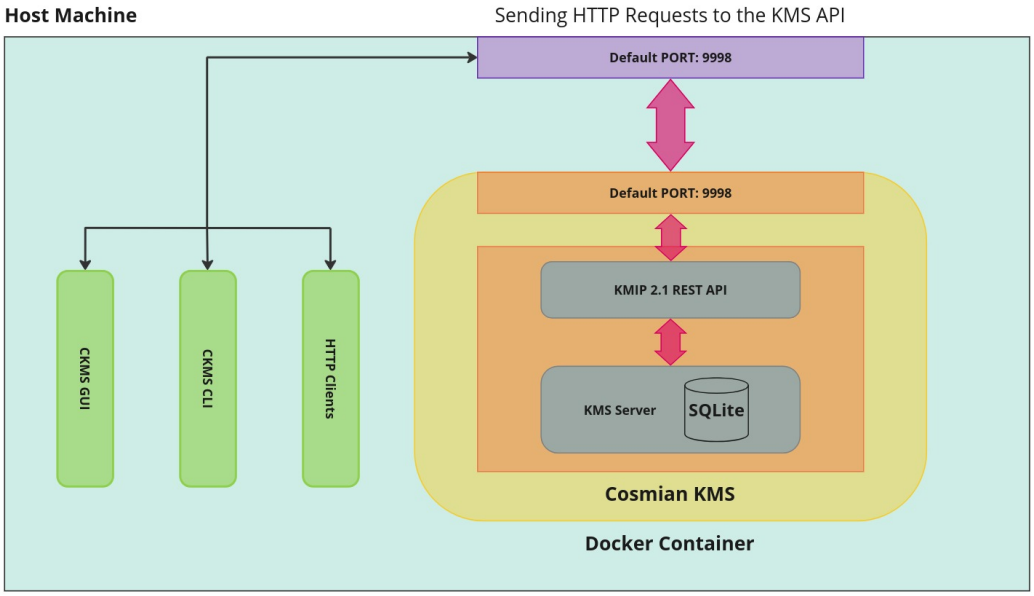

Figure 2: System Architecture of Cosmian KMS

4 Conclusion

In summary, Cosmian KMS provides a secure and efficient solution for managing cryptographic keys and objects. With robust features such as secure key management, encryption services, and strong access control, it is designed to operate reliably in various environments, including local systems and cloud-based zero-trust infrastructures. The system's architecture ensures secure client communication and data integrity, making it a trusted solution for cryptographic operations.