liana

System architecture overview

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Introduction

At Liana Technologies, we prioritize the secure and efficient functioning of our systems to deliver high-quality SaaS products. This System Architecture Overview provides a glimpse into the foundational structure and key operational aspects of our infrastructure for our European customers without delving into proprietary or sensitive specifics.

Purpose of the Document

This document aims to offer our customers and partners a broad understanding of the structural framework supporting our SaaS offering in Europe. While we maintain a commitment to transparency, the level of detail provided here respects the confidentiality of proprietary information critical to our operations.

Scope of System Architecture Details

Outlined within this document are key components and operational practices instrumental in delivering robust and dependable services to our customers. However, please note that certain specifics pertaining to security measures, proprietary configurations, and intricacies of our systems are intentionally omitted to preserve the integrity and security of our operations.

As a testament to our dedication to the European market, the document sheds light on our data residency policies, redundancy strategies, hosting services, email infrastructure, logging practices, technology stack, and governance regarding third-party software. It provides insights into our commitment to best practices and industry standards while ensuring data residency and compliance within the EU/ETA region.

Hosting Services

Liana Technologies prioritizes a robust and diversified approach to hosting services, ensuring the resilience and scalability of our SaaS offerings within the European market.

Data Center and Cloud Service Providers

Our selection of data center and cloud service providers is governed by stringent criteria focusing on security, reliability, and suitability for the European market. We strategically leverage a mix of hyperscalers and traditional data center services, including GCP and AWS hyperscalers, Telia, DNA, Hetzner, Upcloud, among others. For GCP and AWS we only and strictly use the EU/ETA regions. This diverse portfolio enables us to optimize capacity utilization while maintaining redundancy across multiple data centers.

European Data Residency and Redundancy

The data integrity and privacy of our European customers are paramount. All European data, including logs and backups, is strictly located within the EU/ETA region. Our systems are strategically distributed across multiple data centers to enhance redundancy, resilience, and capacity utilization. Communication between these distributed systems is encrypted to ensure data confidentiality and security.

Critical Database Duplication

Critical databases within our production environments undergo strategic duplication. This duplication strategy fortifies our systems, ensuring continuity and integrity in the face of unforeseen incidents or failures.

Liana Mailer Infrastructure

Liana Mailer operates on a sophisticated infrastructure of distributed Message Transfer Agents (MTAs) spread across various ISPs within our ecosystem. This distributed approach provides flexibility in utilizing MTAs based on evolving requirements, enhancing delivery optimization while ensuring reliability and flexibility.

Upon request Liana Technologies offers dedicated MTA hosts to ensure the customer's deliverability rate is generated to match the customer's profile and to ensure that other customers' activity does not interfere with your one.

Logging Practices

At Liana Technologies, our logging practices and technology stack form the cornerstone of our robust infrastructure, ensuring operational efficiency and reliability. Notably, our logging platform is intentionally isolated from our service infrastructure, providing enhanced security and operational advantages.

Rotation policies

We log everything that is necessary to troubleshoot any probable production problems, but nothing just in case. This policy enables us to manage troubleshooting and at the same time complying with any data protection regulations. The following rotation policies take effect across all Liana products:

- Rotation Policy: Standard logs follow a 9-month rotation policy, enabling efficient storage and analysis of operational data.

- Extended Retention: Audit logs are retained for an extended period, facilitating comprehensive security reviews and analysis.

Data location in Finland

The physical location of our logging platform within Finland serves as a testament to our dedication to data privacy:

- Compliance and Data Residency: By housing our logging platform within Finland, we uphold stringent compliance measures and ensure adherence to regional data residency regulations.
- Enhanced Data Privacy: The geographical localization of our logging data offers an added layer of assurance regarding data privacy and protection.

Isolated Logging Platform and Operational Advantages

In addition to its physical localization in Finland, our logging platform remains intentionally isolated from our product infrastructure, providing heightened security and operational benefits:

- Security Enhancement: This isolation bolsters security measures, safeguarding critical logs and operational data from direct exposure to our product infrastructure.
- Reduced Access Requirements: By isolating the logging platform, we minimize direct access requirements to our production servers, limiting access solely for authorized log viewing purposes.

Governance of Third-Party Software

At Liana Technologies, our infrastructure incorporates a variety of third-party software, both open source and commercial, each governed by rigorous guidelines and adherence to our Terms and Conditions.

Inclusion of Third-Party Software

Our systems integrate a diverse range of third-party software, fulfilling specific functionalities and augmenting our service offerings:

- Open Source Software: Embracing open source solutions that align with our service requirements. All the open source software Liana Technologies uses is monitored as with any other notable SaaS vendor.

- Commercial Services: Utilizing commercial services that complement our infrastructure and own applications, enhancing specific functionalities and contributing to the robustness of our services.

Governance and Terms of Use

All third-party software utilized within our infrastructure is governed by Liana Technologies' comprehensive Terms and Conditions:

- Compliance and Accountability: Third-party software integration strictly follows our compliance measures, ensuring alignment with legal requirements and industry standards.

- Responsibility: As the distributor of open source software, Liana Technologies assumes responsibility to comply with the licensing requirements of these components

Regardless of the source - be it open source software or commercial services - each component integrated into our infrastructure is held to the same high standards:

- Consistent Integration: All third-party software undergoes meticulous integration processes to maintain consistency and compatibility within our ecosystem.

Our governance approach ensures that third-party software contributes to the reliability, scalability, and security of our infrastructure while maintaining alignment with our stringent standards and regulatory requirements.

Technology Stack

Our technology stack forms the foundation of Liana Technologies' SaaS infrastructure, integrating robust components to ensure reliability, scalability, and adaptability in delivering cutting-edge solutions to our customers.

Operating System: Linux Debian

At the core of our infrastructure lies the Linux Debian operating system. Renowned for its stability, security, and versatility, Linux Debian serves as the backbone supporting our software, providing a robust and reliable environment for our applications and systems.

Database Management: PostgreSQL

For database management, we rely mostly on PostgreSQL, a powerful relational database management system. PostgreSQL offers advanced features, strong reliability, and a proven track record of data integrity, ensuring the secure and efficient management of our customers' data.

Additional Tools and Components

In addition to our core components, our technology stack incorporates various commonly used tools and components:

- Server Infrastructure Tools: Utilizing tools and utilities to manage server infrastructure efficiently and securely.
- Monitoring and Analytics Tools: Implementing monitoring and analytics tools for real-time insights and performance optimization.
- Security Measures: Employing a suite of security tools and protocols to fortify our infrastructure against potential threats and vulnerabilities.

Continuous Improvement and Adaptability

Our technology stack is not static but continuously evolves and adapts to emerging trends and industry advancements. We prioritize innovation and stay abreast of technological developments to ensure that our technology stack remains robust, scalable, and equipped to meet evolving customers' demands and industry standards.