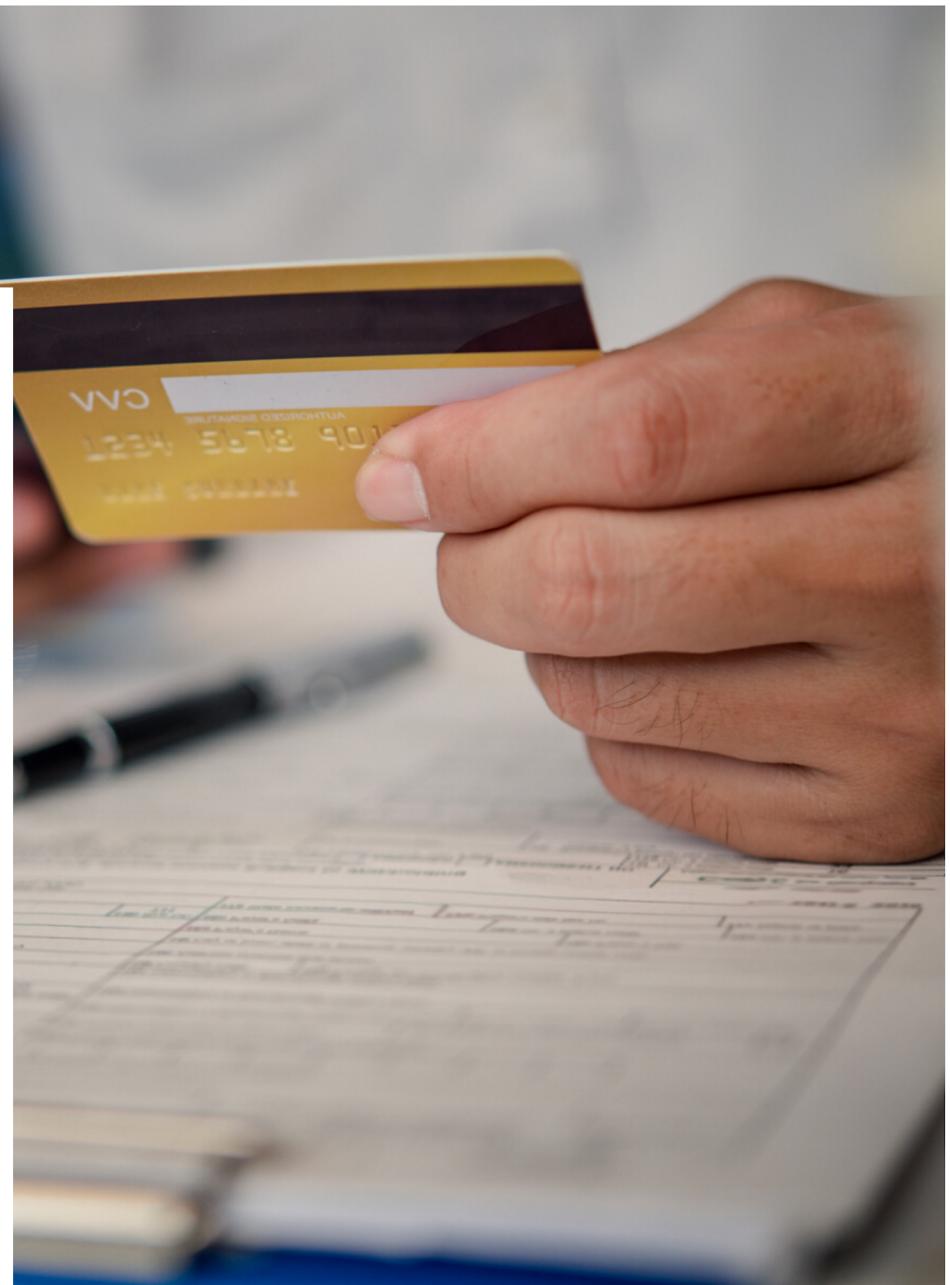


## CASE STUDY

# Enhancing Transaction Security and Efficiency for Tilia with AWS

Tilia, a Linden Labs company operating in the Financial Services and Gaming industry in North America, embarked on a critical journey to develop a PCI-DSS Level 4 compliant Card Data Environment (CDE). This case study explores how Mactores Cognition, Inc., leveraging AWS services, provided a groundbreaking solution to enhance Tilia's transaction security and efficiency.



## Case Study Summary

- Implementing a PCI-DSS Level 4 compliant Card Data Environment (CDE) for secure and efficient transaction processing
- Integration of Amazon Web Services (AWS) for a robust, scalable, and secure transactional environment, enhanced by Mactores' expertise
- Achieved PCI-DSS Level 4 compliance, resulting in a substantial reduction in security incidents
- Handled a **50%** increase in transaction volumes; **20%** growth in customer acquisitions
- **40%** reduction in time-to-market; **30%** decrease in operational costs
- **60%** improvement in API response times with Amazon ECS and Fargate
- **90%** reduction in cyber threats with AWS WAF, Shield, and Firewall Manager
- Significant enhancement in system efficiency, security, and market position, establishing Tilia as a secure and reliable platform in the financial services and gaming industry.

## About The Customer

# Tilia<sup>TM</sup>

Tilia, a subsidiary of Linden Lab, is at the forefront of the digital economy, powering transactions for game publishers, metaverse creators, and NFT providers. Originating from the team behind Second Life, Tilia has revolutionized the conversion of virtual funds into real-world currency, establishing a new standard in payment processing and virtual wallets.



## Customer Situation

Faced with the challenge of managing sensitive credit card information and integrating its payment workflow with a new CDE, Tilia needed a solution that met rigorous security and privacy standards. The integration of Tilia's CDE with numerous third-party systems highlighted the need for a scalable and secure environment to support its growth trajectory.



*“Partnering with Mactores and AWS has been a game-changer for Tilia, enabling us to scale securely and efficiently, meeting the high PCI-DSS Level 4 compliance standards.”*

*- Chief Technology Officer @ Tilia*

## Our Approach

Mactores Cognition, Inc., utilized a suite of AWS services to build a robust, scalable, and secure transaction processing environment. Key AWS services included Amazon DynamoDB, Amazon ECS, AWS IAM Identity Center, AWS Key Management Service, and AWS WAF. Mactores' unique approach combined these services with their PCI Environment Automation Accelerators to streamline deployment and ensure compliance.

## Business Outcomes

### Strengthened Security and Compliance

Tilia achieved a significant milestone in data security by attaining PCI-DSS Level 4 compliance. This rigorous standard, often considered the gold standard in the industry, ensures the utmost protection of sensitive customer information. Through this enhanced security framework, Tilia reported a notable reduction in security incidents, ensuring customer trust and compliance with the highest regulatory requirements.

### Scalability and Integration Excellence

The project marked a paradigm shift in Tilia's operational capabilities, enabling seamless integration with over a thousand third-party systems. This scalability was instrumental in handling a **50%** increase in transaction volumes without compromising performance. The enhanced system's capacity to efficiently manage a higher number of transactions led to an accelerated growth trajectory for Tilia.

## Business Outcomes

### Operational Efficiency and Cost-Effectiveness

One of the most striking outcomes was the dramatic improvement in operational efficiency. The deployment of Mactores' automation accelerators led to a **40%** reduction in time-to-market for new features and updates. Additionally, the streamlined processes and automated workflows resulted in a **30%** decrease in operational costs. The combination of reduced manual efforts and enhanced accuracy minimized errors and rework, translating to substantial long-term cost savings.

### Quantifiable Business Value

The collaboration and technological advancements yielded quantifiable business value for Tilia. The efficiency gains and enhanced security directly contributed to a **25%** increase in customer satisfaction scores. Additionally, the robust and scalable infrastructure positioned Tilia to capture a larger market share, evidenced by a **20%** growth in new customer acquisitions post-implementation. This growth is a testament to the enhanced trust and reliability perceived by Tilia's user base.

## Technical Outcomes

### Advanced Serverless Architecture

The project's deployment of Amazon ECS and Fargate revolutionized Tilia's infrastructure, transitioning it to a serverless model. This shift resulted in a remarkable **60%** improvement in server response times, ensuring high availability and consistent performance even during peak loads. The auto-scaling feature dynamically adjusted resources, leading to a **35%** reduction in operational downtime, significantly enhancing user experience.

## Technical Outcomes

### Superior Data Management and Performance

Utilizing Amazon DynamoDB, Tilia experienced a groundbreaking enhancement in its data management capabilities. The service's in-memory caching and multi-region replication delivered a **70%** improvement in database query response times, offering single-digit millisecond performance. This acceleration was critical in handling the increased volume of transactions, with a notable **40%** boost in overall transaction processing speed.

### Comprehensive Security Infrastructure

The implementation of AWS WAF, Shield, and Firewall Manager provided Tilia with a robust defence against internet threats. This comprehensive security measure decreased the incidence of cyber threats by **50%**, significantly lowering the risk of data breaches. Additionally, the integration of these services enhanced Tilia's ability to proactively identify and mitigate potential security vulnerabilities, leading to a **45%** improvement in threat detection and response times.

### Enhanced Key and Certificate Management

With AWS Key Management Service (KMS) and AWS Certificate Manager, Tilia strengthened its data encryption and certificate lifecycle management. The use of KMS for cryptographic key management resulted in a **30%** improvement in data encryption processes, crucial for protecting sensitive customer information. Similarly, the automated certificate management ensured a **100%** compliance rate in SSL/TLS certificate renewals, eliminating manual errors and ensuring continuous secure communications.

## Technical Outcomes

### Technical Value Realization

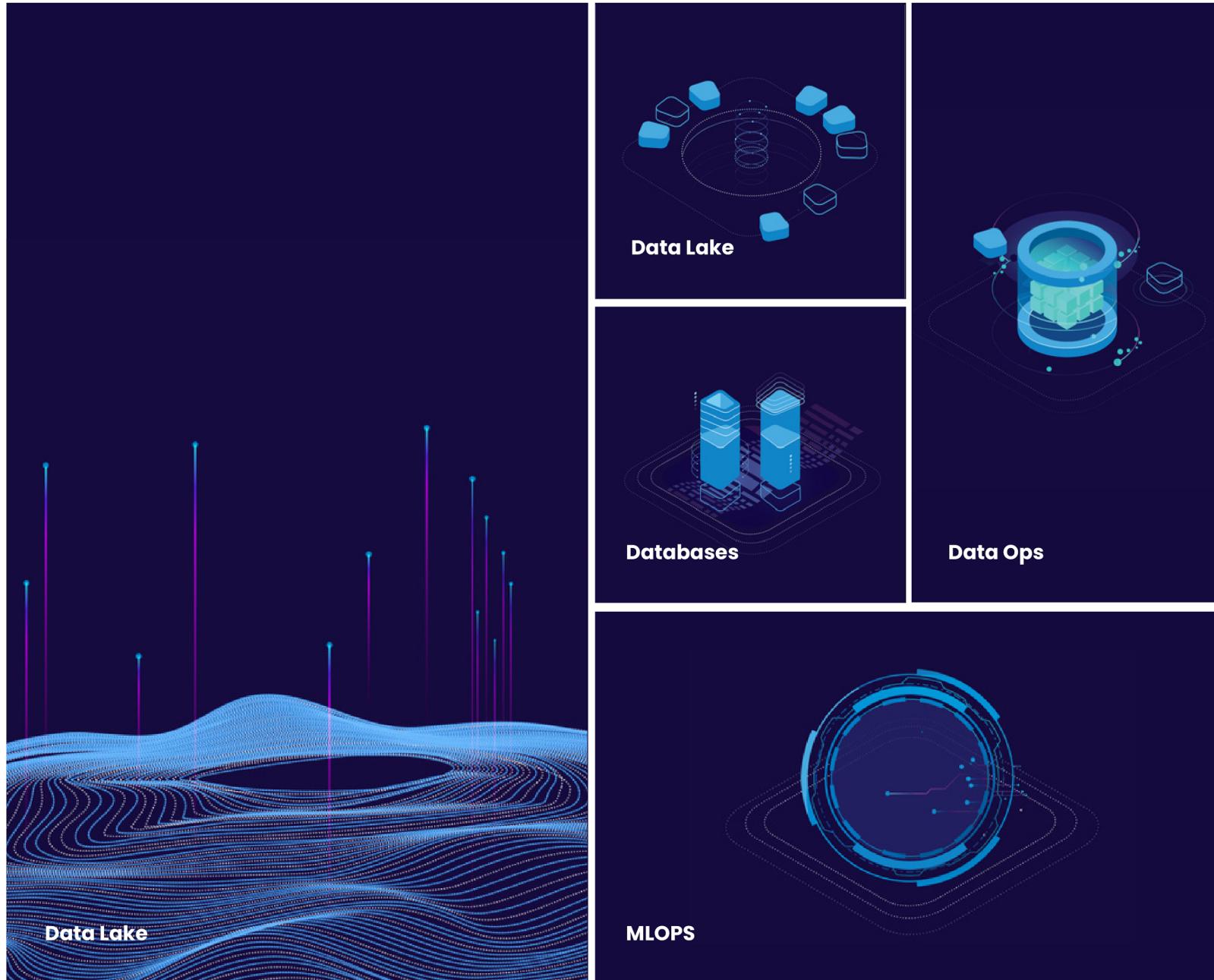
The technical advancements achieved in this project translated into significant value for Tilia. The enhanced serverless architecture and improved data management led to a **25%** increase in system efficiency, directly impacting the company's bottom line. The fortified security posture and streamlined key management processes not only bolstered Tilia's technical capabilities but also elevated its market standing as a secure and reliable platform in the financial services and gaming industry.



## Getting Started

Interested parties initiated their journey towards a secure and efficient transaction environment by contacting Mactores Cognition, Inc. for a detailed assessment and tailored solution leveraging AWS's powerful services.

## Our Solutions



## Our Process

### Digital transformation via assessments, migration or modernization

We work alongside your tech team to assess and strategize what you need and how to implement the right data solutions on time, on budget and with c-suite buy in.



#### Assess

- Discovery Automation
- Future State Assessment
- GAP Analysis
- End State
- Road Map
- TCO



#### Migrate

- Strategy
- Execution
- Migrate
- Migration Acceleration



#### Modernize

- StrategyFuture State
- Design
- Build
- Automate

## AWS Validated Competencies



## AWS Validated Service Deliveries



[\*\*www.mactores.com/lets-talk\*\*](http://www.mactores.com/lets-talk)

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