



Building the Future of Payments: Akua's AWS PCI-Compliant Platform Success

Executive Summary

Akua partnered with binbash to implement a Well-Architected AWS platform to streamline operations, enhance compliance readiness, and scale its payment processing capabilities. Leveraging the binbash Leverage™ framework, the project encompassed a multi-account AWS Landing Zone, Kubernetes EKS deployments, and a secure platform designed to accelerate PCI-DSS certification to be integrated with MasterCard and VISA processors in only 3 months. The deployment served as the foundation for Akua's Internal Developer Platform (IDP), providing self-service capabilities, automation, and operational agility.

Customer Challenge

- **Scalability:** Building an infrastructure capable of supporting the diverse and growing demands of payment processing across Latin America.
- **Compliance Readiness:** Aligning infrastructure with PCI-DSS standards to ensure secure handling of sensitive payment data.
- **Efficiency:** Automating infrastructure deployment to reduce time-to-market for new services.
- **Resource Optimization:** Streamlining costs while maintaining high availability and performance.

Solution

binbash developed and deployed a robust AWS Well-Architected Platform to meet Akua's needs. Key components included:

1. **AWS Landing Zone:** Created a secure multi-account structure using AWS Organizations, OUs (Organizational Units) and Service Control Policies (SCPs) for streamlined governance.
 - Accounts for management, production, and development



Akua is a pioneering acquiring processing platform designed for all payment rails in Latin America. By leveraging cutting-edge technology and a robust platform infrastructure, Akua delivers secure, scalable, and efficient solutions for businesses across the region. Their innovative approach enables seamless payment processing, ensuring compliance with the highest standards and fostering financial growth in an ever-evolving digital economy.



We successfully deployed a multi-environment, multi-account platform based on AWS Well-Architected Framework best practices, with the support of Binbash as our trusted partner. This achievement positions us to streamline PCI certification while significantly increasing our operational speed—all accomplished in just three months

Luis Pedro Toloy - CTO



binbash[®]

environments were provisioned to support workload isolation.

2. Kubernetes (EKS) Cluster Deployment:

- Orchestrated microservices across Dev, Prod, and Credit Card Environments (CDE) with managed nodes and spot instances for cost optimization.
- Integrated with GitLab for CI/CD automation.

3. Networking Architecture:

- Configured AWS VPC, AWS Transit Gateway + AWS Network Firewall integrated with Site2Site VPNs for centralized traffic inspection and management.
- AWS Client VPN: Enabling secure access for engineering teams.

4. Identity and Access Management (IAM):

- Deployed AWS IAM Identity Center (AWS SSO) for centralized user access management across accounts.
- Established granular IAM roles for enhanced security.

5. Security and Compliance:

- Enabled AWS CloudTrail, Config, and GuardDuty for centralized logging, configuration tracking, and threat detection.
- Implemented a secure baseline with MFA, encrypted EBS, and restricted S3 bucket access.
- Configured Amazon KMS for encryption, aligning with PCI-DSS standards.

6. Infrastructure Automation:

- Leveraged binbash Leverage™ and Terraform for Infrastructure-as-Code (IaC).
- Automated self-hosted GitLab runners to streamline CI/CD processes.

7. IDP Deployment:

- Enabled self-service capabilities through Akua's IDP, empowering teams to deploy resources across multiple environments and tenants.
- Leveraged Pulumi for IaC, New Relic for observability, and Port.io as the developer portal interface.

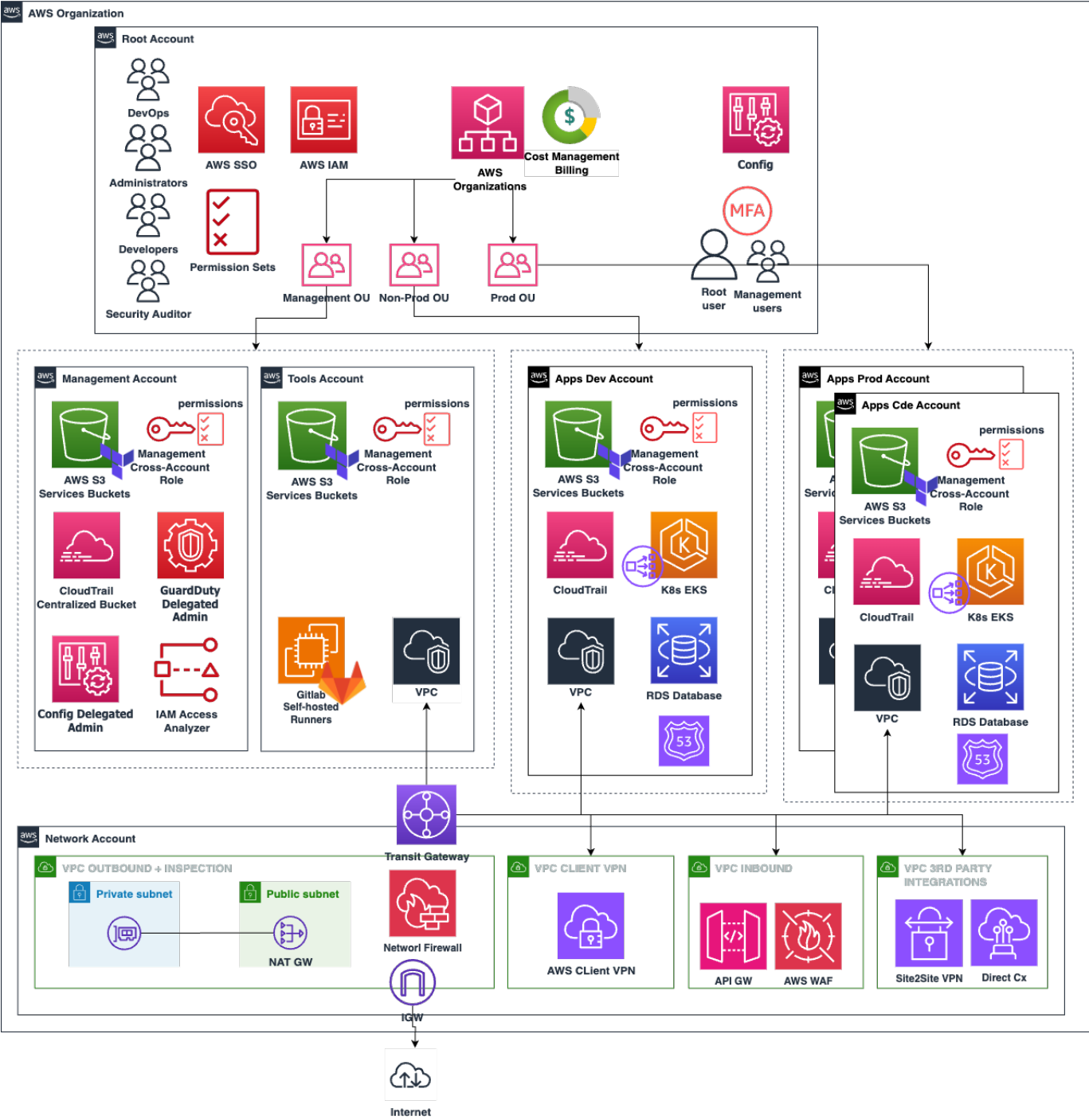
8. Observability and Cost Monitoring

- Observability Stack:
 - Deployed New Relic for full-stack monitoring, including metrics, logs, and traces.
 - Configured QuickSight dashboards to provide actionable insights for leadership and operational teams.
- Cost Optimization:
 - Implemented cost monitoring alerts and AWS Budgets through AWS Cost Explorer and CloudWatch.



binbash®

AWS LANDING ZONE | ORGANIZATION & ACCOUNTS





binbash[®]

Key Milestones

- **Foundation Setup:**
 - Deployed the AWS Landing Zone and secure baseline configurations.
 - Established Dev, Prod, and CDE environments.
- **Compliance Readiness:**
 - Integrated GuardDuty, CloudTrail, and KMS to align with PCI-DSS standards.
 - Deployed cost-monitoring tools for proactive resource management.
- **Operational Optimization:**
 - Implemented GitLab CI/CD pipelines with self-hosted runners.
 - Established multi-environment, single/multi-tenant workflows via the IDP.

Results and Impact

- **Scalability:** Seamless scalability across environments supports Akua's growing transaction volumes.
- **Compliance:** Positioned Akua to streamline PCI-DSS certification.
- **Efficiency:** Automated deployments reduced time-to-market for new features.
- **Operational Excellence:** The IDP reduced the cognitive load on developers, enhancing productivity and innovation.

Conclusion

Akua's collaboration with binbash resulted in a secure, scalable, and compliant cloud platform aligned with AWS best practices. The deployment not only accelerated PCI certification but also empowered Akua with a robust IDP, streamlining development, deployment, and management workflows. This success positions Akua as a leader in Latin American payment processing innovation.