**SMBCTEX-001 - Design Document**

**Project Overview**

**Project Name:** IX-RD-PS-Autohall-01 Implementación acceso seguro y bitácora de compra

**AWS Partner:** Intcomex Cloud  
**Region:** US-EAST (N. Virginia)

This document outlines the architecture, components, operational strategies, and best practices used in deploying a secure, scalable, and cost-optimized cloud infrastructure for Autohall using Amazon Web Services (AWS).

**Objectives**

* Provide a tool for access to different auction platforms
* Have a record of who makes a purchase transaction
* Improve infrastructure scalability, reliability, and security
* Reduce operational costs
* Modernize legacy systems and enable future DevOps practices

**Architecture Overview**

**Key Components:**

* **Compute:** Amazon Appstream
* **Storage:** Amazon S3
* **Directory Services:** AWS Cognito
* **Web Services:** API Gateway
* **DNS & Load Balancing:** Route 53, Cloudfront
* **Security:** AWS WAF, Security Groups, AWS Certificate Manager
* **Monitoring & Management:** AWS CloudWatch
* **Networking:** VPC, Subnets, Security Groups, Landing Zone

**Scalability & Availability:**  
The infrastructure is deployed in one Availability Zone but is designed to scale across two AZs.

**Security and Compliance**

* **IAM Policies:** Least privilege, role-based access, temporary credentials
* **Root User:** MFA enabled, secured roles
* **Encryption:** Data at rest and in transit using KMS and Certificate Manager
* **Network Security:** Fine-grained security groups, private subnets

**Operations & Monitoring**

* **Monitoring Tools:** Amazon CloudWatch
* **Logging:** CloudTrail for auditing, CloudWatch Logs
* **Alarms:** Threshold-based alerts (Appstream metrics)

**Maintenance & Support**

* **Patch Management:** manual patching
* **Backup & Recovery:** AWS S3 Versioning
* **Operational Playbooks:** Documented procedures, training sessions conducted

**Cost Optimization**

* **Initial Cost Estimate:** Provided using AWS Calculator
* **Cost Controls:** Auto-scaling, right-sizing of resources

**Dev/Test Recommendations**

* Separate Dev and Test environments recommended
* Staging environment under consideration for future rollouts

**Diagrams & Documentation**

* Architectural diagram

