SMBCTEX-001 - Design Document

Project Overview

Project Name: IX-RD-PS-Smartsoft-01 Implementación herramienta de procesamiento de documentos
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 Smartsoft 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 EC2

- **Storage:** Amazon S3

- **Directory Services:** AWS Cognito

- **Web Services:** Amazon S3 static website

- **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

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

SENTINEL

Diagrama General