**SMBCTEX-001 - Design Document**

**Project Overview**

**Project Name:** IX-RD-PS-SegurosPatria-01 Migración infraestructura Seguros Patria  
**Customer:** Seguros Patria, S.A.  
**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 Seguros Patria using Amazon Web Services (AWS).

**Objectives**

* Migrate critical workloads to AWS
* Improve infrastructure scalability, reliability, and security
* Reduce operational costs
* Modernize legacy systems and enable future DevOps practices

**Architecture Overview**

**Key Components:**

* **Compute:** Amazon EC2 (Windows Server)
* **Database:** Amazon RDS for SQL Server
* **Storage:** Amazon EBS, Amazon FSx
* **Directory Services:** AWS Directory Service (for Active Directory)
* **Web Services:** IIS hosted on EC2
* **DNS & Load Balancing:** Route 53, AWS ALB
* **Security:** AWS WAF, Security Groups, AWS Certificate Manager
* **Monitoring & Management:** AWS CloudWatch, AWS Systems Manager, AWS Backup
* **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 (CPU, RAM, Disk, RDS, ALB metrics)
* **Logging:** CloudTrail for auditing, CloudWatch Logs for app and server logs
* **Alarms:** Threshold-based alerts (e.g., CPU > 90%)

**Maintenance & Support**

* **Patch Management:** AWS Systems Manager (scanning, manual patching)
* **Backup & Recovery:** AWS Backup for EBS and RDS
  + **RPO:** 24 hours
  + **RTO:** 2 hours
* **Operational Playbooks:** Documented procedures, training sessions conducted

**Cost Optimization**

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

**Dev/Test Recommendations**

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

**Diagrams & Documentation**

* Architectural diagram

A screenshot of a computer screen

AI-generated content may be incorrect.

* Access configuration, VPC setup, subnet details, and IAM roles documentation available upon request