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

    o **RPO:** 24 hours

    o **RTO:** 2 hours

- **Operational Playbooks:** Documented procedures, training sessions conducted
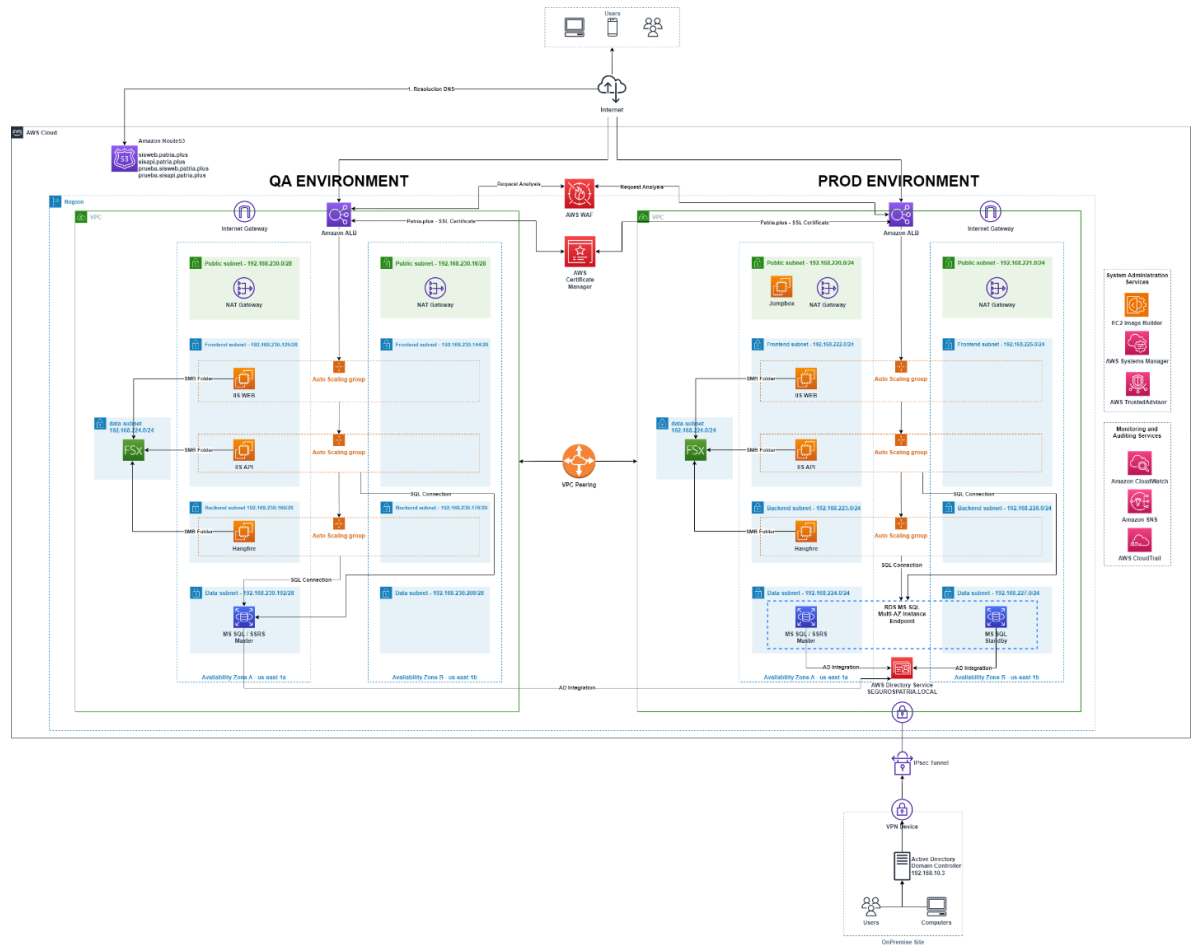
Cost Optimization

- **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

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