

## SMBCTEX-003 – Expert Design Review

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### Purpose

This document presents an expert review of the solution architecture designed and implemented for Sentinel under the project code IX-RD-PS-Smartsoft-01 Implementación herramienta de procesamiento de documentos. The review evaluates the infrastructure against AWS Well-Architected Framework pillars and industry best practices, ensuring the solution aligns with security, performance, cost-efficiency, and operational excellence objectives.

### Review Summary

Pillar	Status	Comments
Operational Excellence	Compliant	Clear monitoring, logging, and runbook practices are in place
Security	Compliant	Strong IAM controls, encryption, and network segmentation implemented
Reliability	Compliant	Using AWS managed services
Performance Efficiency	Compliant	Well-sized services with optimization
Cost Optimization	Improving	Initial modeling complete; lacks automated cost tracking or usage alerts

### Architecture Review

#### Strengths

- **Modular Design:** Clear separation of compute, storage, directory, and networking layers.
- **Scalability:** Designed to scale across two AZs even though deployed in one initially.
- **Security:** Comprehensive IAM policies, MFA for root, encrypted storage, and secure access boundaries.
- **Monitoring:** CloudWatch, and CloudTrail are properly configured.



- **Compliance:** Infrastructure adheres to AWS best practices, with well-documented configurations.
- **High Availability:** Currently deployed using aws managed services

#### Areas of Concern

- **Automation:** Manual patching and deployment workflows limit agility and recovery speed.
- **Dev/Test Environments:** Not yet provisioned, increasing risk during production updates.

#### Detailed Recommendations

##### CI/CD Pipeline

- **Recommendation:** Implement AWS CodePipeline + CodeDeploy for automated builds and updates.
- **Justification:** Reduces human error and improves deployment speed, version control, and rollback.

##### Cost Management

- **Recommendation:** Use AWS Budgets and Cost Explorer for ongoing tracking.
- **Justification:** Enables real-time awareness of usage spikes and encourages ongoing cost optimization.

##### Dev/Test Infrastructure

- **Recommendation:** Deploy isolated Dev/Test environments with resource limits.
- **Justification:** Facilitates safe testing and shortens deployment cycles for new features or patches.

#### Compliance with AWS Well-Architected Framework

Pillar	Review Status	Supporting Evidence
Operational Excellence	Meets	Runbooks, monitoring dashboards, training sessions
Security	Meets	IAM roles, encryption, VPC setup, logging
Reliability	Meets	Designed for high availability
Performance Efficiency	Meets	Lambda scaling, use of Cloudfront
Cost Optimization	Improving	Initial modeling done; no real-time cost management configured



### Expert Review Conclusion

The solution designed and deployed under the SMBCTEX initiative demonstrates a solid architectural foundation with careful attention to security, performance, and manageability.

### Sign-Off

Name	Role	Signature	Date
Julio Diaz	AWS Solutions Architect		
Edwin Mendoza	Project Manager		
Client Representative	Client Representative		