Enterprise Architecture Framework

Executive Summary

This document outlines our comprehensive Enterprise Architecture framework designed to align technology with business objectives while ensuring scalability, security, and operational excellence.

Core Principles

• Business Alignment: All technology decisions must directly support business capabilities and strategic objectives.

• Standardization First: Prefer standard, widely-adopted technologies over custom solutions.

• Security by Design: Security and compliance requirements must be integrated into all architecture decisions.

• Data as an Asset: Treat data as a strategic enterprise asset with proper governance.

• Agility and Flexibility: Architectures should support rapid change while maintaining stability.

Technology Standards

Our technology stack is organized into three tiers:

Foundation Layer:

• Cloud Infrastructure: AWS/Azure with multi-region deployment

• Containerization: Kubernetes for orchestration, Docker for packaging

• Monitoring: Prometheus, Grafana, and ELK stack for observability

Application Layer:

• Frontend: React.js with TypeScript for web applications

• Backend: Node.js/Express or Python/FastAPI for APIs

• Database: PostgreSQL for relational data, Redis for caching

Integration Layer:

• API Gateway: Kong or AWS API Gateway

• Service Mesh: Istio for microservices communication

• CI/CD: GitHub Actions with automated testing and deployment

Risk Management

Technical debt is managed through a systematic approach:

Assessment Criteria:

• Business Impact: High, Medium, Low

• Technical Risk: Security, Performance, Maintainability

• Effort Required: Small, Medium, Large

Prioritization Matrix:

• P1 (Critical): Security vulnerabilities, compliance issues

• P2 (High): Performance bottlenecks, scalability concerns

• P3 (Medium): Code quality, documentation gaps

• P4 (Low): Nice-to-have improvements