

# **Solution Reference Architecture Healthcare Multi-Product Initiative**

This Solution Reference Architecture (SRA) defines the standard, reusable blueprint for implementing individual healthcare solutions (product lines, programs, or initiatives) aligned with the Enterprise Reference Architecture. It ensures consistency, safety, interoperability, and delivery speed while supporting clinical, member, provider, and operational workflows.

## **Solution Architecture Scope**

Applies to product lines such as Telehealth, Care Management, Digital Front Door, Pharmacy, Claims Modernization, Analytics Enablement, and Partner Integrations.

## **Standard Logical Layers**

Experience Layer – Web, Mobile, Clinician, Partner channels

Solution Services Layer – Domain-aligned services for the solution

Platform Services Layer – Enterprise shared services (API, identity, events, audit)

Data Layer – Operational data, events, analytics pipelines

Integration Layer – EHR, legacy, vendor, and partner systems

Infrastructure Layer – Cloud, network, security, observability

## **Reference Integration Patterns**

- API-first synchronous integration (REST/GraphQL)
- Event-driven integration for cross-product data sharing
- Façade + strangler for EHR and legacy systems
- Read/write separation for clinical systems
- Bulk/batch for claims and reporting workloads

## **Mandatory Platform Services Usage**

Identity & Access Management, Consent Management, API Gateway, Event Bus, Audit Logging, Notification Service, Workflow Engine, Document Service, Configuration Management

## **Non-Functional Requirements (Baseline)**

Availability  $\geq$  99.9%  
RTO  $\leq$  30 min, RPO  $\leq$  15 min  
Encryption in transit & at rest  
Full auditability for PHI  
Scalable for seasonal and event spikes

## Security & Compliance Guardrails

Zero Trust access model  
RBAC/ABAC enforcement  
PHI data flow diagrams required  
Threat modeling mandatory  
Security scans integrated in CI/CD

## Delivery & Governance Artifacts

Solution Architecture Diagram (C4 L2/L3)  
ADRs for major decisions  
API contracts and schema registry  
Data flow diagrams  
Deployment architecture & runbooks  
Migration and cutover plan

## Why This Solution Architecture Works

Accelerates delivery through reuse, enforces healthcare safety and compliance, reduces integration risk, and ensures every solution aligns with enterprise governance while preserving team autonomy.