

Marty Spallone - Senior AI Solutions Architect | Engineering Leader | Healthcare, Agentic AI & Cloud-Native Applications

Coventry, CT | 860-214-1496 | martysp1@gmail.com | www.ResolveSolutions.AI | LinkedIn: marty-spallone

PROFESSIONAL SUMMARY

Senior Solution Architect, software engineer, and technology leader with extensive experience designing and delivering enterprise healthcare applications, distributed systems, and cloud-native solutions from strategy and architecture through implementation and production.

Spent 15+ years at Cigna delivering large-scale healthcare technology solutions while partnering across business, product, engineering, security, enterprise architecture, data, integration, and cloud organizations. Experienced leading complex technical initiatives, establishing architecture direction and engineering patterns, reviewing solution designs, mentoring technical teams, and translating business needs into scalable production systems.

Hands-on architect with deep experience in **AI application architecture, agentic AI, AWS serverless systems, APIs, distributed and event-driven architectures, data and retrieval platforms, security, identity, and enterprise integration.**

Founder of Resolve Solutions, LLC, where I architect and build AI-enabled SaaS applications using **Amazon Bedrock, Strands Agents, Amazon Bedrock AgentCore, RAG, semantic search, OpenSearch, Python, FastAPI, Lambda, DynamoDB, and event-driven AWS services.**

My focus is applying AI safely and practically within real applications—separating model reasoning from deterministic business rules, designing controlled agent tools, maintaining durable application and workflow state, incorporating human-in-the-loop patterns, and building secure, observable, production-ready systems.

PROFESSIONAL EXPERIENCE

Founder | AI Product & Solutions Architect

Resolve Solutions, LLC | Jan 2026 – Present

AI Application & Agentic Architecture

- Architect and develop production AI-enabled applications spanning mobile, web, backend services, retrieval systems, and agentic workflows.
- Architected **Resolve Legacy**, an AI-assisted family and legacy planning application using Amazon Bedrock, Strands Agents, AgentCore, OpenSearch, and retrieval-augmented generation to organize documents, assess planning readiness, identify gaps, and guide users through multi-step workflows.
- Designed the Resolve Legacy Planning Assistant around **controlled business-service tools rather than direct datastore access**, separating LLM reasoning and recommendations from authoritative business rules, permissions, and application state.
- Designed agentic workflow patterns supporting semantic retrieval, document search, planning assessment, recommendations, tool calling, user context, and long-running business processes.
- Designed human-in-the-loop and asynchronous workflow patterns using durable application state, DynamoDB, Lambda, EventBridge, SQS, idempotent operations, and deterministic approval services.
- Integrated LLM capabilities for conversational assistance, personalized insights, document classification, summarization, information extraction, structured analysis, and guided planning.

Product Leadership & Engineering

- Founded and lead an AI-focused software product and consulting company specializing in intelligent applications, AWS serverless architecture, and AI-assisted product engineering.
- Own the product lifecycle from problem discovery, product strategy, UX, and architecture through hands-on engineering, cloud deployment, production operations, analytics, releases, and roadmap planning.
- Architected, built, and launched **Resolve Reinvent**, an AI-powered wellness and recovery SaaS application available on Apple iOS, Google Android, and the web.
- Built and launched **FFT Social**, a structured conversation and perspective-analysis platform with shared mobile and web application architecture.
- Define application architecture, service boundaries, domain models, API contracts, security patterns, engineering standards, and production-readiness requirements.

Cloud-Native Application Engineering

- Architected and developed Python 3.12 / FastAPI REST services running on AWS Lambda and API Gateway across multiple SaaS applications.
- Designed DynamoDB models and access patterns supporting users, documents, permissions, family workspaces, accounts, subscriptions, and application workflows.
- Built asynchronous and event-driven processing using Amazon SQS, SNS, EventBridge, Lambda, and external APIs for AI workloads, notifications, recurring processes, and background processing.
- Implemented secure application access using Firebase-issued JWTs, AWS IAM roles, least-privilege permissions, encrypted AWS services, and controlled external integrations.
- Automated application and infrastructure delivery using AWS CloudFormation, GitHub Actions, and multi-repository CI/CD.

Solution Architect | Enterprise Applications, Cloud & Platform Architecture

Cigna | Mar 2020 – Mar 2026

Enterprise Architecture & Technical Leadership

- Led architecture and technical direction across complex enterprise healthcare initiatives involving application teams, platform organizations, cloud engineering, security, integration, data, and operational stakeholders.
- Partnered with business leaders, product teams, engineering teams, and enterprise architecture organizations to translate business capabilities into scalable technical solutions.
- Evaluated solution designs, architecture patterns, technology choices, integration approaches, resiliency requirements, security controls, and production-readiness considerations across enterprise initiatives.
- Provided technical leadership across cross-functional engineering organizations, helping teams resolve architecture issues, establish reusable patterns, modernize applications, and navigate dependencies across large enterprise environments.
- Supported architecture governance, technical decision-making, design reviews, and engineering standards across cloud-native applications, APIs, integration platforms, data services, and production systems.

Healthcare Application & Distributed Systems Architecture

- Designed cloud-native and distributed application architectures using REST APIs, serverless services, relational databases, event-driven integration, container platforms, identity services, and enterprise integration patterns.
- Designed and implemented AWS solutions using Lambda, API Gateway, VPC networking, WAF, Aurora PostgreSQL, managed services, and secure application integration patterns.

- Partnered closely with Security, Cloud, Integration, Infrastructure, and application teams to ensure scalability, resiliency, security, observability, compliance, and production readiness.
- Led evaluations and proofs of concept across PostgreSQL, Amazon RDS, Aurora, Redshift, and enterprise data platforms, assessing architecture, migration risk, scalability, operational impact, cost, and ROI.

Cloud & Engineering Enablement

- Owned architecture across AWS environments representing more than **\$5M in annual cloud spend**, driving governance, workload optimization, and enterprise technology standards.
- Led modernization initiatives involving AWS, Kubernetes, EKS, OpenShift, Docker, serverless technologies, and managed services.
- Established engineering and deployment standards using Helm, Argo CD, GitOps, observability, and automated CI/CD practices.
- Led cloud cost optimization, workload right-sizing, platform rationalization, and FinOps initiatives that reduced non-labor cloud spend by approximately **20%**.
- Drove modernization and legacy platform decommissioning initiatives that reduced infrastructure footprint and operational complexity.

Technical Lead / Solution Architect

Cigna | Mar 2010 – 2020

- Designed and built full-stack enterprise healthcare applications using .NET / .NET Core, AngularJS, SQL Server, DB2, REST APIs, and enterprise integration technologies.
- Led hands-on technical design and development for underwriting, rating, and core business applications.
- Defined application architectures, APIs, UI frameworks, data models, reusable components, and integration approaches.
- Led engineering teams through solution design, implementation, debugging, testing, deployment, and production support.
- Modernized legacy applications into cloud-ready and distributed architectures using REST services, Docker, OpenShift, Kubernetes, and automated deployment.
- Designed and implemented application and database CI/CD using GitHub, TFS, Jenkins, and Redgate.
- Delivered application modernization, reporting platforms, integration frameworks, and enterprise data capabilities.
- Developed early AWS and container proofs of concept supporting next-generation underwriting platform modernization.

EARLIER CAREER

Solution Architect – Pfizer

Architecture leadership for clinical informatics, enterprise data warehousing, business intelligence, application integration, and data platforms.

Founder / Owner – Blue Object Software, LLC

Independent consulting and software architecture across .NET, enterprise applications, distributed systems, and application modernization.

Senior Consultant / Technical Lead – UPS, PwC, Canberra Industries, Others

Led development and technical design of large-scale distributed, client/server, and web applications across healthcare, insurance, logistics, pharmaceutical, security, and enterprise technology environments.

Full employment history available upon request.

CORE CAPABILITIES

AI APPLICATION & AGENTIC ARCHITECTURE

Amazon Bedrock, Bedrock AgentCore, Strands Agents SDK, Generative AI, Agentic AI, LLM Integration, RAG, Semantic Search, Vector Search, OpenSearch, Agent Tool Design, Tool Calling, AI Workflow Orchestration, Human-in-the-Loop Workflows, Durable State, Idempotent Operations, Prompt Engineering, Document Classification, Information Extraction, Summarization

ARCHITECTURE & ENGINEERING LEADERSHIP

Solution Architecture, Enterprise Architecture, Application Architecture, Technical Strategy, Architecture Governance, Technical Leadership, Design Reviews, ADRs, Domain Modeling, Distributed Systems, Event-Driven Architecture, Microservices, Serverless Architecture, REST API Design, Integration Architecture, Scalability, Resiliency, Production Readiness, Engineering Standards, Cross-Functional Leadership, Technical Mentoring

DATA, RETRIEVAL & SEMANTIC ARCHITECTURE

DynamoDB, DynamoDB Single-Table Design, OpenSearch, Vector Search, Semantic Search, Aurora PostgreSQL, RDS, PostgreSQL, SQL Server, DB2, Redshift, Data Modeling, NoSQL, Relational Databases, Search Indexing

AWS & CLOUD-NATIVE APPLICATIONS

AWS, Lambda, API Gateway, S3, CloudFront, SQS, SNS, EventBridge, IAM, WAF, VPC, EKS, CloudWatch, Aurora, RDS, OpenSearch, CloudFormation, Serverless Architecture

SECURITY, IDENTITY & INTEGRATION

OAuth 2.0, OpenID Connect, JWT, Firebase Authentication, Okta, RBAC, Least-Privilege IAM, Encryption, API Security, Secure Tool Calling, Secrets Management, Kong API Gateway

SOFTWARE & PLATFORM ENGINEERING

Python, FastAPI, C#, .NET / .NET Core, Dart, Flutter, SQL, REST, GitHub Actions, Docker, Kubernetes, EKS, OpenShift, Helm, Argo CD, GitOps, Observability, Dynatrace, Splunk, CloudWatch

EDUCATION

Rensselaer Polytechnic Institute

M.S., Computer Science

Central Connecticut State University / UCONN

B.S., Computer Science & Mathematics

CERTIFICATIONS

AWS Certified Cloud Practitioner

Microsoft Certified Professional (MCP)