



## Case Study

# From Manual to Autonomous: A Multi-Insurer's Leap in Premium Processing with Agentic AI

## About the Client

A leading Fortune 100 mutual life insurance company serving millions of policyholders across life, annuities, and investment products. The client operates complex premium processing workflows under stringent regulatory and compliance requirements..

## Business Challenge

### Fragmented Systems and Manual Steps Limiting Processing Speed & Accuracy

The client's premium processing workflow involved 17 complex operational steps across five distinct phases, requiring extensive coordination between business relationship managers, processors, & managers across multiple legacy & modern systems. The fragmented data landscape created significant operational bottlenecks, with critical information scattered across disparate systems including SQL server databases, cloud-based warehouses, & numerous flat files.



### Key challenges included:

- Manual, time-consuming tasks across contract linking, document handling, payment checks, and setup—often taking weeks per transaction
- Frequent errors due to system and team handoffs, causing data inconsistencies and delays
- Compliance risks from inconsistent rule enforcement across teams and tools
- Limited scalability, as higher volumes demanded proportional staff increases
- Data silos blocking real-time visibility and hampering decision-making

## Success Factors

- Integration-first approach to connect systems without major replacements
- Governance-by-design embedding compliance in daily operations
- Intelligent agents enabling autonomous workflows with human oversight
- Scalable architecture to support growth from pilots to enterprise-wide automation



## The Avrio Solution

### Intelligent automation through specialized AI agents

The client implemented Avrio's agentic AI platform, deploying multiple specialized agents from the AI Agent Marketplace. The agentic AI solution included Document Processing Agents for automated form validation, Payment Validation Agents for mathematical verification, Eligibility Verification Agents for policy compliance, & Case Management Agents for intelligent routing, creating an end-to-end automated workflow operating autonomously while maintaining human oversight.



The agentic AI platform's integration-first design ensured seamless operation with existing legacy SQL server systems & cloud-based data warehouses without requiring system replacements. By configuring federated query capabilities across all data sources, the AI agents could access & process information from multiple systems simultaneously, eliminating data silos & enabling real-time decision-making.

The solution's governance-by-design approach embedded compliance monitoring directly into each AI agent's operations, ensuring regulatory requirements were consistently applied across all processing steps. This built-in governance enabled the agentic AI system to maintain complete digital audit trails while automatically flagging exceptional cases for human review.



## Results

### Operational transformation from weeks to days

The implementation of Avrio's agentic AI platform led to a significant operational transformation for the client by automating critical steps in the premium processing workflow. Through the consolidation of contract and premium data using federated queries and deployment of 10+ specialized AI agents, the company achieved faster access to premium information, consistent policy monitoring, and enhanced workflow efficiency.



Tasks such as document validation, payment verification, and eligibility checks—previously prone to human error—were automated, ensuring regulatory compliance and full audit trail documentation. The shift to 24/7 automated processing enabled the organization to absorb increasing transaction volumes without proportional staff increases, allowing human teams to focus on high-value activities like customer service and complex underwriting.

### Quantifiable Results:

- **72% overall workflow automation** potential was achieved by automating 12 out of 17 process steps
- **40–60% faster processing time** was realized by eliminating manual bottlenecks through intelligent case routing, automated verification, and workflow execution.
- **50–60% reduction in manual errors** was accomplished via specialized AI agents that handled rule-based tasks, document parsing, and mathematical validations.
- **\$2–3 million in annual labor cost savings** were projected by reducing the need for manual intervention and reallocating resources to strategic roles.
- **24/7 automated processing** was established, enabling continuous throughput and exception handling without reliance on human schedules.
- **Scalability and compliance consistency** were enhanced through real-time monitoring, standardized rule enforcement, and complete digital audit trails.

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