

Vertical & Agentic SaaS Solutions

Case Study: Autonomous Workflow Orchestration in High-Compliance Contact Centers

EXECUTIVE SUMMARY: DOMAIN-SPECIFIC AGENTIC SOLUTIONS

This case study details how Valtree AI PM consultants helped a specialized enterprise SaaS vendor design, validate, and scale autonomous AI agents within regulated customer support environments.

1. STRATEGIC ENGAGEMENT CONTEXT

A vendor offering domain-specific customer engagement agents struggled with high agent handoff rates and customer friction around edge-case errors. Enterprise customers required strict service level agreements (SLAs) regarding output accuracy and data privacy.

2. CORE INTERVENTIONS & AREAS OF EXCELLENCE

- Deterministic Workflow Graphs:** Built hybrid architectures pairing deterministic state machines with LLM decision nodes to guarantee compliance in regulated conversations.
- Human-in-the-Loop (HITL) Console:** Redesigned supervisor intervention interfaces, allowing human operators to seamlessly takeover sessions with real-time AI summary context.
- Domain Fine-Tuning Pipeline:** Engineered automated data-ingestion pipelines that continuously clean customer interaction logs to fine-tune task-specific domain models.

74%

AUTONOMOUS RESOLUTION

< 1%

HALLUCINATION RATE

4.8 / 5

CUSTOMER CSAT SCORE

3. OPERATIONAL TRANSFORMATION METRICS

Metric Dimension	Legacy Customer Support	Agentic SaaS Architecture
Average Handle Time	14 Minutes (Human)	2.1 Minutes (Agentic Execution)
System Integration	Manual copy-paste across tabs	Real-time bi-directional API sync (CRM/ERP)
Compliance Check	Post-facto audio auditing	Real-time inline guardrail enforcement