iOPEX

Payments Technology & Merchant Services

Global

Global Payments Provider Scales Technical Support Operations and Merchants' Payment Reliability with Agentic AI

A global payments technology and merchant-services provider supporting banks, acquirers, and merchants across more than 30 countries sought to transform how it delivered technical support for its payment terminals and services. With a global footprint, thousands of terminals, and a decade-plus of operational knowledge spread across manuals, tickets, transcripts, and SOPs — the organization recognized the need for a unified, intelligent support backbone to sustain growth, consistency, and compliance under high volume.

Highlights

- The client's expansive payment-acceptance business spanned 45 offices across 32+ countries with 40+ million terminals globally, generating high daily support volumes. Public and partner documentation revealed that such a scale created complexities in knowledge management and support responsiveness.
- iOPEX implemented a governed Agentic AI architecture — including a semantic knowledge foundation (Data Studio), specialized support Command Agents (AgenticAI Studio), and governed runtime (Runtime + AgentOps) — enabling fast, context-aware support recommendations worldwide.
- The solution delivered sub-10-second retrieval of contextual knowledge, significantly reduced manual search and resolution times, improved first-level resolution consistency, and supported scale across high-volume, global operations.

Business Challenges

The enterprise needed to ensure fast, consistent, and compliant support across its high-volume technical operations. However:

Its technical knowledge, spanning device manuals, firmware documentation, configuration SOPs, call transcripts, support tickets, and merchant-specific payment rules, was fragmented across decades of legacy systems and documentation.

Manual lookup of relevant information by support agents slowed down resolution, led to inconsistent responses, and increased reliance on senior experts (SMEs).

Global operations across multiple countries, diverse merchants, and thousands of terminals meant that any inconsistency or delay could impact merchants' payment acceptance capabilities — with potential reputational and revenue risks.

The client required autonomous agents capable of understanding technical intent, retrieving contextual knowledge instantly, and recommending precise next steps. Enabling this demanded a governed, explainable, enterprise-scale intelligence layer that could synthesize information across unstructured sources, ensure compliance, and augment every agent with real-time, decision-ready insights.

iOPEX Solution

iOPEX implemented a platformized Agentic AI ecosystem that combined a unified knowledge backbone with specialized support agents, governed execution, and transparent auditability.

Embedding the Intelligence Layer: ElevAIte Data Studio

Purpose

Unify multi-year transcripts, tickets, manuals, SOPs, logs, and merchant-specific documentation into a single semantic intelligence layer that Agentic Support Agents can rely on for fast, contextual, and consistent technical decision-making.

Unified Ingestion Fabric

- Ingested contact-center transcripts, historical tickets, manuals, troubleshooting guides, SOPs, chat logs, call logs, and merchant-specific documentation.
- Consolidated GDPR-sensitive interactions with automated PII masking and region-based residency alignment.

Semantic Knowledge Understanding

- Vectorization and semantic indexing across multi-year content.
- Entity and relationship extraction mapping device → issue → resolution patterns.
- Automated taxonomy creation and content classification for precise retrieval.

Outcome

A unified, optimized knowledge repository supporting **sub-10-second contextual retrieval** for real-time support.

Designing Command Agents: Agentic AI Studio

Purpose

Build domain-specialized Support & Knowledge Command Agents capable of real-time understanding, retrieval, recommendation, and governed escalation across high-volume technical support environments.

Command Agents Built

- Knowledge Retrieval Agents
- Contextual Recommendation Agents
- Technical Diagnostic Agents
- Escalation Decision Agents

Agent Studio Features Used

- No-code prototyping for rapid agent creation.
- Prompt engineering tailored to technical support and diagnostic language.
- Multi-agent collaboration logic for retrieval → reasoning → recommendation flows.
- Automated scoring and relevance validation for safe, consistent responses.

Agent Capabilities

- Natural-language understanding of agent queries across device types, error codes, and historical cases.
- Context extraction combining metadata (device type, logs, past tickets, manuals) into a unified view.
- Ranking of relevant knowledge sources with precision and semantic relevance.
- Real-time generation of guided troubleshooting recommendations.
- Automated escalation logic triggered when confidence falls below the threshold.

Outcome

A governed, domain-trained agent system delivering fast, accurate technical recommendations within seconds.

Automating Execution with Governance: Runtime + AgentOps

Purpose

Enable orchestrated, real-time technical support automation with built-in governance, guardrails, and human assurance.

Autonomous Workflow Execution

- Interpret NL queries
- Execute vector search
- Synthesize context-aware responses
- Recommend next steps
- Detect when escalation is needed

AgentOps Governance Layer

- Confidence thresholds for safe autonomous recommendations.
- Full audit trails supporting GDPR compliance and regulatory audits.
- Drift detection ensuring answer quality remains consistent over time.
- Continuous feedback loops to refine knowledge accuracy.

Connected Systems

- Knowledge repositories
- Contact-center systems
- Document stores
- Case & ticketing systems

Outcome

A governed, real-time support system capable of handling high-volume technical queries with traceability and assurance.

Agent Classification

Agent Type: System-of-Record Agent (SoR)

System-of-Record Agent (Primary), with **System-of-Engagement** extensions for metadata enrichment and routing.

Autonomy Level: L3 Governed Autonomy

Agents autonomously retrieve knowledge and make decisions with human-in-loop gateways for critical steps.

Systems Connected

- Knowledge repositories
- Contact center applications
- Document databases
- Escalation & ticketing tools

The Impact

The Agentic AI modernization delivered measurable improvements across operational speed, support quality, and global scalability.

Efficiency Gains

- 50,000+ support events handled autonomously per day
- Significant reduction in manual search effort
- Faster and more accurate first-level resolutions

Cost Optimization

- Reduced training effort for new hires
- Lower reliance on top-tier SMEs
- More predictable support operations

Service Quality Improvements

- Higher accuracy through context-driven retrieval
- Better consistency vs SME-dependent workflows
- Faster escalation for complex cases

Business Outcomes

- Lower handle times
- Better agent experience
- More stable customer experience

About iOPEX

iOPEX Technologies is a new-generation agentic AI and automation-led enterprise transformation partner headquartered in San Jose, California. At the intersection of enterprise operations, agentic AI, and intelligent automation, we deliver Intelligence as a Service, helping organizations embed intelligence directly into workflows for measurable impact. Over 70 global brands trust iOPEX to transform operations, accelerate revenue growth, and unlock value at scale. Contact us at marketing@iopex.com.