OFFICIAL-SENSITIVE / TECHNICAL ASSURANCE

AXIOM TRIPARTITE ARCHITECTURE

FCA Regulatory Alignment & Statutory Compliance Mapping

Document Ref: #AXM-REG-FCA-2026.1

TARGET FRAMEWORK:	FCA Regulatory Compliance (SM&CR, CASS 7.13, PS21/3)
PREPARED BY:	Axiom Origins Ltd Technical Solutions & Regulatory Assurance
PRIMARY FOCUS:	SM&CR Human Accountability, CASS 7.13 Fund Segregation, CTP Resilience
LEGAL STANDING:	Section 7 Electronic Communications Act 2000 (ASAR Receipts)
CORE PHILOSOPHY:	Reconciliation, Not Revolution — Governing the Border, Not the Engine

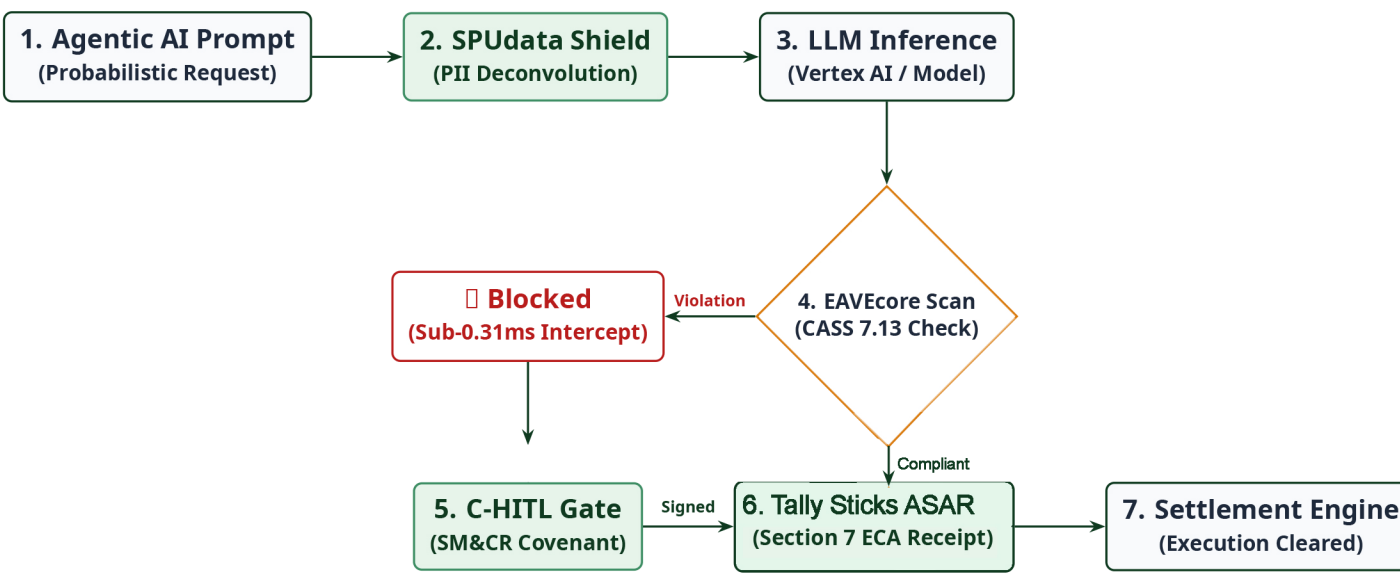
1 1. Executive Overview: Deterministic Perimeter Protection

The Axiom Sovereign Engine provides a deterministic, model-agnostic governance perimeter for FCA-supervised firms deploying probabilistic AI. By separating the "Engine" (the LLM) from the "Border" (the regulatory checkpoint), the architecture ensures statutory compliance without compromising enterprise agility.

Rather than asking financial institutions to rely on non-deterministic AI safety promises, Axiom establishes an un-bypassable physical logic gate at the firm's API perimeter. This guarantees complete adherence to FCA statutory mandates while insulating Senior Managers from uninsurable algorithmic liability.

2 2. Architecture Pipeline & Decision Flowchart

The diagram below illustrates the active interception conveyor mechanism. External probabilistic models are treated as unverified guests; every outbound instruction is swept in sub-milliseconds by EAVEcore before execution can occur on internal ledgers.



MERMAID DIAGRAM SPECIFICATION (FOR DOCUMENTATION INTEGRATION)

```
graph TD
   A[Agentic AI Request] -->|Deconvolution| B(SPUdata Vault Shield)
   B -->|Blinded Payload| C[External / Internal LLM]
   C -->|Generated Output| D{EAVEcore Jurist Gate}
   D -->|CASS 7.13 Violation| E[Hard Intercept: 0.31ms Drop]
   E -->|Trigger C-HITL| F[SM&CR Human Covenant Required]
   F -->|Vague Justification| G[  Permanent Pipeline Lock]
   F -->|Signed Covenant| H[TallySticks Witness Ledger]
   D -->|Statutory Compliant| H
   H -->|Cryptographic ASAR Receipt| I[Cleared Ledger Execution]
```

3 3. Detailed Regulatory Alignment Matrix

1. Senior Managers and Certification Regime (SM&CR)

The Regulatory Expectation:
Senior Managers must take reasonable steps to prevent regulatory breaches in the areas of the firm for which they are responsible, maintaining clear lines of accountability when deploying automated systems.

The Axiom Solution (C-HITL Protocol):
EAVEcore cures "automation bias" and prevents the outsourcing of liability to AI models. If an agentic workflow diverges from established policy, the pipeline physically halts. The operator must provide a **Maxim-Anchored Covenant** (a legally binding justification) to unlock the gateway. Liability remains firmly with the human operator, exactly as SM&CR dictates.

2. Client Assets Sourcebook (FCA CASS 7.13 — Segregation of Funds)

The Regulatory Expectation:
Firms must ensure the strict segregation of client money from firm money to protect consumers in the event of insolvency.

The Axiom Solution (Runtime Intercept):
Live telemetry confirms that EAVEcore deterministically blocks AI-generated commands attempting to commingle retail client funds with corporate operational accounts. In empirical testing, semantic drift was intercepted and blocked in **0.31 milliseconds**, proving that compliance can be enforced at the API layer with zero perceptible latency drag on the enterprise pipeline.

3. Operational Resilience (FCA PS21/3)

The Regulatory Expectation:
Firms must prevent, adapt to, respond to, and recover from operational disruptions, particularly those caused by Critical Third Parties (CTPs) such as hyperscale cloud and AI providers.

The Axiom Solution (Model Agnosticism):
The Tripartite Architecture treats every external LLM as an unverified guest. Because the governance turnstile sits at the firm's perimeter, the firm maintains absolute control. If a proprietary AI model hallucinates, degrades, or is compromised, the EAVEcore shield prevents that failure from cascading into internal state or financial databases.

4. Legal Admissibility & Non-Repudiation

The Regulatory Expectation:
Firms must maintain immutable, auditable records of algorithmic decisions and human overrides.

The Axiom Solution (TallySticks UK CIC):
Every successful intercept or operator override generates an immutable Sovereign Audit Receipt (ASAR) hash. Structured under **Section 7 of the Electronic Communications Act 2000**, these cryptographic receipts are legally admissible in UK courts, transforming a "black box" AI operation into an insurable, mathematically verifiable event.

4 4. Strategic Conclusion for Regulators & Boards

KEY REGULATORY TAKEAWAY: INHERENT AUDITABILITY

By wrapping agentic workflows in the Axiom Tripartite Engine, FCA-supervised entities eliminate the uninsurable liability of non-deterministic AI. The firm maintains 100% operational resilience, guarantees SM&CR human accountability on every override, and provides regulators with cryptographic proof of compliance in real-time.