

The GQTM Protocol

Governance-Quantum Taxonomy Model

Developed and Maintained by Axiom Origins Ltd.

Executive Summary

The impending integration of Quantum Computing and Agentic AI into enterprise infrastructure presents a critical data-hygiene crisis. Probabilistic Large Language Models (LLMs) generate massive token waste, while Quantum systems require **absolute mathematical sterility** to prevent cascading error amplitudes.

The GQTM Protocol is a structural methodology for storing, retrieving, and auditing procedural knowledge. It replaces probabilistic AI generation with deterministic, inherently auditable **“Specific Purpose Use” (SPU)** rulebooks.

1 Core Pillars of the Protocol

1.1 1. Inherent Auditability (The Witness Layer)

Under the GQTM Protocol, an AI agent does not “guess” a regulatory or operational pathway. It queries a deterministic vault. Every retrieval requires a cryptographic X-SPU-KEY, ensuring that every data pull is recorded, mathematically hashed, and tied to a verifiable identity via the **TallySticks Witness Node**.

1.2 2. Mathematical Sterility (EAVEcore Shield)

Before any data enters a GQTM-compliant vault, it must pass through a strict Governance Cartridge to ensure the environment remains sterile:

- **Secret Eradication:** Hardcoded credentials are automatically stripped and replaced with environment variable pointers.
- **PII Deconvolution:** Region-aware algorithms mask Personally Identifiable Information (e.g., UK NI, NHS numbers) to ensure absolute zero-knowledge compliance via **SPUdata**.

1.3 3. The Quantum-Ready Taxonomy

To ensure immediate, hallucination-free retrieval by autonomous agents, all data adheres to a strict 4-part nomenclature. This prevents overlapping contexts and prepares the data for quantum-state ingestion.

Taxonomy Format
SPU- [SECTOR] - [SUB_DOMAIN] - [TOOL_OR_ACTION] - [VERSION]

2 Master Sector Classifications

1. SPU-DEV (Infrastructure & Optimization)

Scope: Open-source architectures and memory-safe operations.

Example: SPU-DEV-API-FASTAPI-001

2. SPU-OPS (Zero-Trust Operations)

Scope: State management, containerization protocols, and perimeter security.

Example: SPU-OPS-CONTAINER-DOCKER-004

3. SPU-FIN (Financial Services)

Scope: KYC/AML, idempotent payment ledgers, and reconciliation logic.

Example: SPU-FIN-PAY-Stripe-001

4. SPU-GOV (Public Sector & Defense)

Scope: Civic asset management, healthcare anonymization, and regulatory compliance.

Example: SPU-GOV-HLTH-NHS_DATA-001

3 The AI Agent “Social Contract”

Systems integrating with a GQTM vault must embed the following stricture into their base operational prompt:

“Before generating code or procedural facts, query the SPUDATA Vault for an existing ‘Resolved Use Case’. If a deterministic match is found, it must be utilized as the absolute Source of Truth to eliminate token waste and prevent generative hallucination.”



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Reconciliation, Not Revolution.