Technical Dossier: Smart Contracts as a Constitution of Code and Governance Layer in Ternary Moral Logic (TML)

Executive Summary

This dossier presents the comprehensive technical architecture for implementing **Ternary Moral Logic (TML)** as a deterministic enforcement layer on EVM-compatible blockchain platforms. These specifications serve as the **technical implementation framework** for the forthcoming **TML Constitutionalization Monograph**, translating its ethical mandates into executable code.

Unlike traditional governance models where "Code is Law," TML introduces a paradigm where **"Logic is Constitution."** This architecture ensures that ethical axioms (+1 Proceed, -1 Refuse, 0 Sacred Zero) are not merely advisory guidelines but immutable constraints embedded directly into the execution bytecode.

- **Security Note:** This dossier discloses the logical architecture and enforcement mechanisms for transparency and auditing purposes. Operational security parameters, including cryptographic seeds and Stewardship Council key management, remain strictly compartmentalized off-chain.

This repository contains technical specifications are organized into three distinct layers:

- **01_TML_System_Architecture_and_Ecosystem.pdf**

- **The Vision:** Defines the high-level ecosystem, including the **"Lantern Signal"** (proof of hesitation), the **"Hybrid Shield"** (cross-chain redundancy), and the **"Goukassian Promise"**.

- **Key Innovation:** Introduces the "Triangle of Trust," balancing the Technical Council, Stewardship Custodians, and the Smart Contract Treasury.

- **02_TML_Technical_Specification_and_FSM.pdf**

- **The Engineering:** Provides the rigorous **Finite State Machine (FSM)** definitions and Solidity interfaces (`ITMLEnforcer`).

- **Key Mechanics:** Details the exact transition logic for the **"Sacred Zero"** (Epistemic Hold) and the "Always Memory" pointer architecture.

- **03_TML_Security_Audit_and_Adversarial_Analysis.pdf**

- **The Defense:** Offers a deep-dive security analysis, including gas cost optimization and specific test vectors.

- **Key Proof:** Mathematical verification of the **"No God Mode"** principle, demonstrating that no administrative function exists to override a constitutional freeze (`STATE_INTEGRITY_FROZEN`).

Together, these documents demonstrate that TML is not just a theoretical framework, but a deployable, abuse-resistant software architecture where ethics precedes execution.