WP-01 Abstract — Deterministic Admissibility in High-Velocity Settlement Systems

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Publication Code: `WP-01`
Release Status: Abstract — Public Release (MSOP)

Abstract

Modern settlement infrastructures have prioritized throughput and latency reduction, yet continue to rely on post-hoc reconciliation mechanisms that permit transient divergence between messaging state and economic truth. As transaction velocity increases, this residual integrity window becomes a structural source of systemic fragility.

This paper introduces **Deterministic Admissibility** as a pre-execution constraint framework for high-velocity settlement systems. The proposed architecture—implemented through the Stability-Optimized Primitive (SOP-C) and the Universal Commodity Index (UCI)—enforces convex admissibility conditions prior to state transition, **ensuring that settlement finality is mathematically contingent upon the satisfaction of these convex boundaries**.

By embedding constraint geometry directly into settlement logic, stability ceases to be an emergent property dependent on discretionary intervention, liquidity backstops, or policy mediation. Instead, settlement continuity becomes a guaranteed structural outcome, independent of routing discretion, reserve-currency dependence, or external trust assumptions.

The abstracted framework outlined herein is supported by empirical annexes and replayable evidentiary artifacts demonstrating deterministic rejection of non-admissible state transitions. Full technical specifications, empirical annexes, and evidence packets are maintained under the **Multi-Sovereign Oversight Protocol (MSOP)** and are available for formal institutional review upon request.

JEL Classification: E42, E58, G15, G18

Disclosure

This document constitutes a public abstract only.
Full text, empirical annexes, and evidence packets are distributed selectively under MSOP disclosure discipline.