WLRT A.D.E — Trading Strategies and Liquidity Management

EN Derivative Translation of RU Canonical v1.0
Status: FROZEN

Petr Popov

February 2026

Canonical Status and License

Canonical Status. This English document is declared **FROZEN** as a derivative translation (EN) of **WLRT A.D.E — Trading Strategies & Liquidity Management (RU) v1.0**. Its structure, terminology, and architectural principles are fixed. Any further modifications are permitted only through explicit versioning (e.g., v1.1, v2.0) with a documented changelog.

Language Priority. The Russian version (RU) is the **primary canonical source**. This English version is a **strict derivative translation** and must preserve meaning and structure without reinterpretation.

License and Disclaimer. This document is provided for research, educational, and analytical purposes. It does not constitute financial advice, trading instructions, or investment recommendations. The author assumes no responsibility for actions taken based on this material.

Contents

Executive Summary

This document presents the canonical framework **WLRT A.D.E (Action–Decomposition–Execution)** applied to trading strategies and liquidity management. It formalizes how market participation is constrained, enabled, and structured under different structural regimes, without producing trading signals, performance claims, or executable logic.

WLRT A.D.E treats **price as a secondary observable** emerging from liquidity redistribution processes. Trading strategies are not viewed as autonomous agents, but as **forms of participation** that must remain admissible with respect to the current market structure.

The framework introduces:

- A strict separation between **structural description** and **execution decisions**.
- Canonical structural objects based on **Entry-4**, **Exit-5**, and **reduction rules**.
- A finite set of **market regimes** governing admissible behavior: **DSR**, **RR**, **DV**, **C**, and **D**.
- A non-trading **FSM of admissible descriptions**, defining what forms of strategy behavior are structurally allowed or forbidden.

A central role is assigned to the **Liquidity Pool**, which is defined as the primary execution object. Individual portfolios are treated as **projections of the Liquidity Pool** under external constraints (risk profiles, mandates, regulations), and do not possess independent structural agency.

Importantly, WLRT A.D.E imposes **market-driven constraints**, not strategy-driven ones. Strategies are free to operate across timeframes and regimes as long as their actions remain structurally admissible. Restrictions arise exclusively from violations of structural integrity, not from predefined strategic limitations.

This document is a **canonical architectural reference**. It does not prescribe how to trade, but defines the boundaries within which trading systems, liquidity pools, and execution logic may operate without violating the underlying market structure.

1 Price Space Without Time

Within the WLRT A.D.E framework, the market is represented as a **one-dimensional price space**, where price is treated as the primary coordinate and time is not considered a fundamental axis.

This representation separates the **structural properties of market movement** from its temporal duration. Market structure is defined by the relative ordering and interaction of price extrema, not by the speed or calendar length of movements.

As a result, structurally equivalent configurations may appear on different timeframes while preserving their canonical properties. Time does not create structure; it only affects how structure is observed.

2 Embedding of Time as a Secondary Attribute

Time is introduced exclusively as a **secondary observational attribute**. Its role is limited to sampling, recording, and executing actions, but it does not participate in the definition of market structure.

A timeframe determines the granularity of observation, not the admissibility of configurations or strategies. The same structural configuration may be observed on multiple timeframes without any change to its canonical interpretation.

Constraints related to timeframes arise only at the level of execution (latency, fees, slippage, technical limits), and never at the level of structural validity.

3 Scale Nesting and Structural Invariants

Price space admits **scale nesting**, where structures observed at smaller scales may be embedded within larger ones. In such cases, a hierarchy of priority applies: the senior (higher-scale) structure dominates the interpretation of embedded junior movements.

This principle is formalized through the **senior-layer priority rule**. As long as the senior structure remains intact, junior movements do not possess independent structural status.

Structural invariants ensure coherence across scales and prevent contradictory interpretations that would otherwise arise from isolated analysis of lower timeframes.

4 Part II. Canonical Structural Objects

This part defines the canonical structural objects used within the WLRT A.D.E framework. These objects are descriptive and non-operational. They do not generate actions, signals, or execution instructions.

Their role is to provide a **structural language** for admissibility, constraint evaluation, and regime classification.

4.1 Entry-4 Configuration

An **Entry-4 configuration** is a minimal structural description of market state required to evaluate admissible participation.

It consists of four ordered reference points, defined exclusively by price relations and directional structure, without reliance on time-based indicators.

Entry-4 configurations:

- do not imply trade direction,
- do not prescribe execution timing,
- do not encode strategy intent.

Their sole function is to define the **structural context** in which participation may or may not be admissible.

4.2 Exit-5 Configuration

An **Exit-5 configuration** represents a completed structural sequence derived from an Entry-4 configuration.

It introduces a fifth reference point, allowing the framework to determine whether a structural action has been completed in a manner consistent with market integrity.

Exit-5 configurations are used to:

- confirm structural completion,
- distinguish continuation from violation,
- enable reduction into admissible reduced forms.

Exit-5 does not represent trade exit. It is a purely structural construct.

4.3 Reduction Rules

Reduction rules map Exit-5 configurations into canonical reduced structural forms.

Reduction:

- removes redundant structural information,
- preserves admissibility-relevant features,
- enables regime-consistent continuation.

Reduction rules are deterministic and canonical. They do not depend on strategy, timeframe, or execution logic.

4.4 Structural Integrity

Structural integrity is preserved if and only if:

- configurations evolve through admissible transitions,
- reduction rules are respected,
- no forbidden structural states are entered.

Violations of structural integrity are the **only source** of constraints imposed by WLRT A.D.E. No additional strategic, behavioral, or discretionary restrictions exist within the framework.

5 Part III. Market Regimes and Admissibility

This part defines the finite set of canonical market regimes used within the WLRT A.D.E framework.

Market regimes do not describe price behavior. They describe **structural admissibility conditions** under which participation, continuation, or suspension of strategic activity is allowed.

Regimes are mutually exclusive and collectively exhaustive with respect to admissible structural states.

5.1 Regime Definition

A **market regime** is a structural classification derived from the current canonical configuration (Entry-4, Exit-5, and reduced forms).

Regimes:

- are inferred, not chosen,
- constrain admissibility, not intent,
- apply uniformly across strategies and timeframes.

A strategy cannot override a regime. It may only operate within the admissible space defined by the active regime.

5.2 Directional Structural Regime (DSR)

The **Directional Structural Regime (DSR)** represents a structurally coherent directional state.

In DSR:

- directional continuation is admissible,
- structural actions may propagate,
- reduced configurations remain directionally aligned.

DSR does not imply trend strength or persistence. It only indicates that directional participation does not violate structural integrity.

5.3 Range Regime (RR)

The **Range Regime (RR)** represents a structurally bounded state without admissible directional propagation.

In RR:

- directional continuation is not admissible,
- only bounded or corrective participation is allowed,
- attempts to enforce direction result in violations.

RR is a structural condition, not a volatility or consolidation description.

5.4 Degradation Regime (DV)

The **Degradation Regime (DV)** represents loss of structural coherence.

In DV:

- configurations degrade toward ambiguity,
- admissibility rapidly collapses,
- participation becomes increasingly constrained.

DV signals the need for exposure reduction or suspension of active participation.

5.5 Compression Regime (C)

The **Compression Regime (C)** represents structural tightening preceding resolution.

In C:

- admissible actions narrow,
- sensitivity to violations increases,
- structural resolution becomes imminent.

Compression does not imply breakout direction. It only signals heightened structural fragility.

5.6 Dislocation Regime (D)

The **Dislocation Regime (D)** represents structural rupture.

In D:

- standard configurations lose validity,
- execution risk dominates structural logic,
- participation is generally inadmissible.

D marks the boundary beyond which WLRT A.D.E suspends structural guidance until coherence is restored.

5.7 Regime Transitions

Transitions between regimes occur exclusively through structural evolution of configurations.

No regime transition may be forced by strategy, execution logic, or discretion.

Admissibility is evaluated continuously as configurations evolve and reduce.

6 Part IV. Admissible Strategy Behavior

This part defines what constitutes **admissible strategy behavior** within the WLRT A.D.E framework.

Admissibility does not describe profitability, optimality, or effectiveness. It defines whether a strategy's actions are structurally compatible with the market state.

Strategies are evaluated exclusively by their structural behavior, not by their internal logic or intent.

6.1 Strategy as a Structural Participant

Within WLRT A.D.E, a trading strategy is treated as a **participant in liquidity redistribution**, not as an autonomous decision-maker.

A strategy:

- does not control the market structure,

- does not define regimes,
- does not alter admissibility rules.

Its role is limited to executing actions that either respect or violate the existing structural configuration.

6.2 Admissible Actions

An action is admissible if and only if it:

- operates within the active market regime,
- respects the current reduced configuration,
- does not introduce structural contradiction,
- preserves configuration integrity.

Admissibility is evaluated independently of position size, timing precision, or execution efficiency.

6.3 Structural Violations

A **structural violation** occurs when a strategy attempts to act outside the admissible space defined by the current regime and configuration.

Violations include:

- enforcing direction in a non-directional regime,
- continuing participation after configuration collapse,
- ignoring mandatory reductions,
- amplifying exposure during degradation.

Structural violations are objective and do not depend on outcome.

6.4 Finite-State Interpretation

Admissible strategy behavior is governed by a **finite-state logic** derived from structural states.

This logic:

- does not prescribe actions,
- does not optimize execution,
- only classifies behavior as allowed or forbidden.

The finite-state interpretation serves as a non-trading constraint layer over strategy design and execution.

6.5 Strategy Freedom Within Constraints

Within admissible boundaries, strategies retain full freedom regarding:

- execution style,
- timing,
- risk management rules,
- internal decision logic.

WLRT A.D.E does not rank strategies. It only defines whether their actions remain structurally coherent.

6.6 Consequences of Inadmissibility

When inadmissibility is detected:

- exposure must be reduced or neutralized,
- participation may be suspended,
- further execution becomes undefined.

These consequences arise structurally, not as imposed penalties.

7 Part V. Liquidity Pool and Portfolio Projection

This part formalizes the role of the **Liquidity Pool** as the primary execution object within the WLRT A.D.E framework.

Individual strategies and portfolios are treated as projections of a shared liquidity pool, not as independent structural agents.

7.1 Liquidity Pool as a Structural Object

The Liquidity Pool represents the aggregate capital participating in market interaction under WLRT constraints.

It is:

- structurally constrained by market regimes,
- subject to admissibility rules,
- the primary carrier of exposure.

All execution activity is interpreted as interaction between the market and the Liquidity Pool.

7.2 Separation Between Pool and Strategies

Strategies do not own liquidity in a structural sense.

Instead:

- the Liquidity Pool owns exposure,
- strategies define participation patterns,
- execution logic operates on behalf of the pool.

This separation prevents strategy-level decisions from overriding structural constraints.

7.3 Portfolio as a Projection

A portfolio is defined as a **projection of the Liquidity Pool** under external constraints, such as:

- risk limits,
- mandates,
- regulatory requirements,
- allocation rules.

Portfolios do not introduce new structural states and do not modify admissibility rules.

7.4 Multiple Projections

Multiple portfolios may coexist as parallel projections of the same Liquidity Pool.

These projections:

- may differ in exposure shape,
- may follow different execution logic,
- remain structurally coupled through the pool.

Structural integrity is evaluated at the pool level, not at the portfolio level.

7.5 Risk and Structural Integrity

Risk management operates as a secondary constraint layer.

While risk rules may limit exposure, they cannot authorize actions that violate structural admissibility.

Structural integrity always dominates over risk-based optimization.

7.6 Failure Propagation

Structural violations propagate from strategies to portfolios and ultimately to the Liquidity Pool.

As a result:

- portfolio-level isolation is limited,
- systemic effects must be considered,
- pool-level controls are mandatory.

WLRT A.D.E explicitly models this propagation to prevent false compartmentalization of risk.

8 Part VI. Execution Constraints and Structural Stops

This part defines execution-level constraints that arise from structural conditions within the WLRT A.D.E framework.

These constraints are not trading rules. They represent **structural stop conditions** that limit or suspend execution when admissibility collapses.

8.1 Separation of Structure and Execution

WLRT A.D.E enforces a strict separation between structural description and execution mechanics.

Structure determines:

- whether execution is admissible,
- whether continuation is defined,
- whether exposure must be reduced.

Execution determines:

- how actions are carried out,
- with what timing and sizing,
- under what technical constraints.

Execution may never override structure.

8.2 Structural Stop Conditions

A **structural stop** is triggered when structural admissibility can no longer be maintained.

Structural stops occur when:

- regime transitions invalidate current participation,
- configurations degrade beyond admissible forms,
- reduction rules can no longer be applied.

A structural stop is absolute. It is independent of unrealized profit or loss.

8.3 Distinction from Risk Stops

Structural stops must not be confused with risk-based or discretionary stops.

Risk stops:

- manage exposure magnitude,
- limit drawdowns,
- optimize survivability.

Structural stops:

- terminate participation,
- preserve structural integrity,
- supersede all risk considerations.

8.4 Execution Undefined Regions

Certain structural states render execution undefined.

In such regions:

- structural guidance is suspended,
- execution outcomes become arbitrary,
- strategy behavior loses interpretability.

WLRT A.D.E explicitly identifies these regions to prevent false confidence in execution logic.

8.5 Resumption of Execution

Execution may resume only after structural coherence has been restored.

Resumption requires:

- re-establishment of admissible configurations,
- clear regime classification,
- valid reduction paths.

No memory of prior execution is structurally preserved across stops.

8.6 Implications for System Design

Execution systems built on WLRT A.D.E must:

- monitor structural admissibility continuously,
- support immediate suspension of execution,
- avoid state carryover across structural breaks.

Failure to enforce structural stops constitutes a violation of the WLRT A.D.E framework.

9 Part VII. Minimal Structural Action and Noise Boundary

This part formalizes the concept of **Minimal Structural Action (MSA)** and defines the boundary between structurally meaningful movement and noise.

WLRT A.D.E does not treat all price changes as structurally relevant. Only movements that produce a minimal admissible structural effect are considered actionable.

9.1 Minimal Structural Action

A **Minimal Structural Action (MSA)** is defined as the smallest price-space movement that results in a valid structural transition.

An MSA must:

- produce a change in canonical configuration,
- admit reduction into a valid reduced form,
- preserve regime interpretability.

Movements that fail to meet these criteria are structurally invisible.

9.2 Noise as Structural Non-Action

Noise is defined as price variation that does not result in a Minimal Structural Action.

Noise:

- may be arbitrarily large in count,
- may accumulate temporally,
- does not modify structural state.

Noise is not a property of scale or timeframe, but a property of structural irrelevance.

9.3 Lower Boundary of Structural Admissibility

For each observation scale, there exists a lower boundary below which structural actions cannot be reliably detected or executed.

This boundary is determined by:

- market microstructure,
- execution latency,
- transaction costs,
- price discreteness.

Below this boundary, even theoretically admissible structures become practically inaccessible.

9.4 Timeframe Independence

The MSA concept is independent of timeframe.

A valid structural action may occur on any timeframe, provided it exceeds the lower admissibility boundary for that scale.

Conversely, no timeframe guarantees structural relevance if movements remain below MSA.

9.5 Implications for Strategy Design

Strategies operating under WLRT A.D.E must explicitly account for MSA.

This implies:

- rejecting actions driven solely by noise,
- calibrating execution to admissible scales,
- avoiding over-interpretation of micro-variation.

Failure to respect the MSA boundary leads to structurally undefined behavior, even if execution is technically successful.

Appendix Z. Structural Autonomy and Reactability

This appendix formalizes the concepts of **structural autonomy** and **reactability** within the WLRT A.D.E framework.

These concepts define when and how a structural configuration may be acted upon without violating the integrity of the market structure.

Structural Autonomy

A configuration is said to possess **structural autonomy** if it is capable of evolving through admissible transitions without requiring external confirmation.

Structural autonomy implies that:

- the configuration is complete,
- reduction rules are applicable,
- regime classification is stable.

Autonomous configurations support admissible continuation and do not depend on speculative completion.

Non-Autonomous States

Non-autonomous states arise when structural descriptions are incomplete, ambiguous, or unstable.

In such states:

- continuation is undefined,

- admissibility cannot be guaranteed,
- execution becomes structurally unsafe.

WLRT A.D.E prohibits treating non-autonomous states as valid bases for participation.

Reactability

Reactability defines whether a structurally autonomous configuration admits immediate execution reaction.

A configuration may be:

- autonomous but non-reactable,
- autonomous and reactable,
- non-autonomous and non-reactable.

Reactability depends on:

- completion of minimal structural action,
- absence of pending reductions,
- execution-level feasibility.

Separation of Autonomy and Reactability

Structural autonomy does not imply reactability.

A configuration may be structurally valid yet require deferred execution until reactability conditions are met.

This separation prevents premature execution based on incomplete structural signals.

Implications for Execution Systems

Execution systems must:

- distinguish autonomy from reactability,
- avoid reacting to non-autonomous states,
- defer execution when reactability is absent.

Failure to implement this distinction results in structurally inconsistent behavior, even if execution is technically correct.

Appendix A. Canonical Configuration Reference

This appendix provides a concise reference for canonical configurations used throughout the WLRT A.D.E framework.

The purpose of this appendix is not to introduce new concepts, but to consolidate previously defined structural elements into a unified reference layer.

Canonical Point Ordering

Canonical configurations are defined in price space by ordered reference points.

Point ordering is determined by:

- relative price position,
- directional alternation,
- structural role within the configuration.

Time order is not a defining attribute.

Entry-4 Reference

An Entry-4 configuration consists of four structurally ordered points forming the minimal context for admissibility evaluation.

Entry-4 configurations:

- define structural context,
- admit regime classification,
- do not imply execution.

Exit-5 Reference

Exit-5 configurations extend Entry-4 with an additional structural point.

They enable:

- confirmation of structural completion,
- evaluation of continuation versus violation,
- application of reduction rules.

Exit-5 configurations remain purely descriptive constructs.

Reduction Reference

Reduction maps Exit-5 configurations to canonical reduced forms.

Reduction:

- preserves structural integrity,
- removes redundant information,
- enables regime-consistent evolution.

Reduction rules are invariant across strategies, timeframes, and execution styles.

Configuration Lifecycle

Canonical configurations evolve through:

- formation (Entry-4),
- completion (Exit-5),
- reduction,
- continuation or degradation.

This lifecycle defines the structural flow underlying all admissibility evaluations.

Appendix B. Regime Transition Matrix and FSM Interpretation

This appendix formalizes the logic of regime transitions within the WLRT A.D.E framework and provides a finite-state interpretation of admissibility dynamics.

The regime transition logic is descriptive. It does not prescribe actions and does not encode execution rules.

Finite Set of Regimes

WLRT A.D.E operates with a finite, closed set of market regimes:

- Directional Structural Regime (DSR),
- Range Regime (RR),
- Degradation Regime (DV),
- Compression Regime (C),
- Dislocation Regime (D).

No additional regimes may be introduced without violating canonical completeness.

Transition Principles

Transitions between regimes occur exclusively through structural evolution of canonical configurations.

The following principles apply:

- transitions are configuration-driven,
- no transition may be forced by strategy,
- transitions are evaluated continuously.

Regime changes are consequences, not decisions.

Admissible Transitions

Certain transitions are admissible under canonical evolution, while others are structurally forbidden.

Examples of admissible transitions include:

- DSR $\rightarrow$ RR (loss of directional admissibility),
- RR $\rightarrow$ C (structural compression),
- C $\rightarrow$ DSR or RR (resolution),
- any regime $\rightarrow$ DV (structural degradation).

Transitions that bypass structural completion or reduction are not admissible.

Finite-State Interpretation

The regime system may be interpreted as a finite-state machine (FSM), where each regime represents a state with admissibility constraints.

The FSM:

- has no accepting or terminal state,
- operates continuously,
- suspends guidance in dislocation states.

This interpretation provides a formal basis for admissibility monitoring without introducing trading logic.

Role of the FSM Layer

The FSM layer acts as a non-trading supervisory structure.

It:

- classifies admissibility,
- detects structural transitions,
- signals suspension or resumption conditions.

The FSM does not generate actions. It only constrains what actions may be meaningfully interpreted.

Appendix C. Terminology and Notation

This appendix consolidates core terminology and notation used throughout the WLRT A.D.E framework.

All terms are used in a strictly structural and non-operational sense.

Core Terms

- **WLRT** — Wave Liquidity Redistribution Theory; a structural theory of market behavior based on liquidity redistribution.
- **A.D.E** — Action–Decomposition–Execution; a framework for structural admissibility and execution constraints.
- **Configuration** — a canonical structural description defined by ordered price points.
- **Admissibility** — structural compatibility of actions with the current market state.
- **Structural Integrity** — preservation of canonical configuration evolution without violation.

Structural Objects

- **Entry-4** — minimal four-point structural configuration.
- **Exit-5** — completed five-point structural configuration.
- **Reduction** — canonical mapping of Exit-5 into reduced structural form.
- **Liquidity Pool** — primary execution object representing aggregate participating capital.
- **Portfolio** — a constrained projection of the Liquidity Pool.

Regimes

- **DSR** — Directional Structural Regime.
- **RR** — Range Regime.
- **DV** — Degradation Regime.
- **C** — Compression Regime.
- **D** — Dislocation Regime.

Execution and Constraints

- **Structural Stop** — termination of execution due to loss of admissibility.
- **MSA** — Minimal Structural Action; smallest movement producing a valid structural transition.
- **Noise** — price variation without structural effect.
- **Structural Autonomy** — capacity of a configuration to evolve without external confirmation.
- **Reactability** — readiness of an autonomous configuration for execution response.

This terminology is fixed for the scope of the present document. Any extension or reinterpretation requires explicit versioning.