

F L O F M A T R I X

Fractal Liquidity & Order Flow Trading System

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# MULTI-ASSET CLASS PROFILE SYSTEM

5 Asset Classes • 1 Codebase • Profile-Based Configuration

FUTURES • FOREX • CRYPTO • EQUITIES • OPTIONS

Version:	1.0
Companion to:	Rubric v3.0 + v3.1 Addendum
Classification:	CONFIDENTIAL

# 1. Architecture Decision: Profiles Over Inheritance

## 1.1 What Was Proposed

The recommendation was to build five separate bot subclasses that inherit from a shared base class, each overriding data feeds, session timings, and execution routing. While conceptually clean, this approach has serious practical problems that compound over time.

## 1.2 Why Profiles Are Superior

DIMENSION	INHERITANCE MODEL	PROFILE MODEL (CHOSEN)
Codebase Count	5 diverging codebases. Every bug fix, rubric update, or toggle addition must be applied 5 times. Drift is inevitable.	1 codebase. Every fix applies universally. Profiles are configuration, not code.
Toggle System	Each subclass would need its own toggle registry, creating confusion about which toggles exist in which bot.	All 42 toggles exist everywhere. Profiles simply set different defaults. The toggle system we already built handles this natively.
Backtesting	Backtesting profiles would be per-subclass. Comparing Futures results to Crypto results requires cross-codebase analysis.	Same backtesting engine runs with different profile configs. Apples-to-apples comparison across asset classes.
Safety Layer	RiskOverlord and Nuclear Flatten must be reimplemented or carefully inherited in each subclass. Risk of a subclass accidentally overriding safety.	Safety layer is universal and cannot be overridden by any profile. One RiskOverlord protects all modes.
New Asset Classes	Adding a 6th asset class means creating a new subclass, wiring up all dependencies, and testing the entire inheritance chain.	Adding a 6th asset class means writing a new TOML profile file. No code changes required.
New Features	Adding T43 or Tier 4 requires updating the base class and verifying all 5 subclasses still work.	Adding T43 requires updating one codebase. Each profile gets a default for the new toggle.

### THE KEY INSIGHT

The differences between asset classes are NOT differences in logic — they are differences in CONFIGURATION. Forex doesn't need different code for the POIMapper; it needs the same POIMapper with Order Flow toggles set to OFF. Crypto doesn't need a different Predator State Machine; it needs the same state machine with different session times and liquidation data as an additional input. The architecture we already built with 42 toggles and a TOML config was designed exactly for this kind of flexibility.

## 1.3 What IS New Code (vs. Configuration)

While most asset class differences are handled by toggle configuration, a few genuinely new capabilities must be built:

NEW CAPABILITY	FOR	WHY IT CANNOT BE JUST A TOGGLE
<b>Gap-as-FVG Detection</b>	Equities	Overnight gaps create price zones that behave like FVGs but form between sessions rather than within candles. Requires new detection logic in the POIMapper.
<b>Options Chain Routing</b>	Options	The bot analyzes the underlying but routes execution to derivative contracts. This is a fundamentally different execution path that needs a new module (OptionsRouter).
<b>Liquidation Data Integration</b>	Crypto	External API calls for funding rates and liquidation heatmaps. New data source that feeds into the ConfluenceScorer as an additional signal.
<b>SIP Data Consolidation</b>	Equities	US equities trade across 16+ exchanges and dark pools. SIP (Securities Information Processor) data must be consolidated for accurate volume. Different data source architecture.
<b>Dynamic Dollar-Risk Sizing</b>	Equities	Futures/Forex use fixed tick values. Equities require per-share dollar risk calculation because each stock has a different price and volatility profile.
<b>Broker Volume Disclaimer</b>	Forex	Not new code, but a hard architectural constraint: Forex volume data is broker-specific and unreliable. The system must gracefully degrade Order Flow features to zero-weight without crashing.

## 2. Profile System Architecture

### 2.1 How Profiles Work

Each asset class has a dedicated TOML profile file that is loaded at bot startup. The profile sets three categories of configuration:

CATEGORY	WHAT IT CONTROLS
Toggle Overrides	Which of the 42 toggles are ON vs. OFF for this asset class. For example, Forex sets T07 (Order Flow Confirmation), T08 (Absorption Detection), T09 (Whale Block Filter), T17 (HVN/LVN Stop), and T38 (VP Entry Refinement) to OFF because there is no centralized volume data.
Constant Overrides	Asset-specific values for thresholds, ATR multipliers, session times, tick sizes, and whale block thresholds. For example, Crypto sets whale_block_threshold to 5.0 BTC while Futures uses 50 contracts.
Data Source Config	Which data provider to use (DataBento, exchange WebSocket, SIP feed), which schemas to subscribe to per Predator State, and connection parameters (API keys, exchange endpoints, reconnect behavior).

### 2.2 Profile Loading Sequence

**1.** Load base config (flop\_base.toml) — all 42 toggles at defaults, all constants at base values. **2.** Load asset profile (e.g., profile\_forex.toml) — overrides ONLY the toggles and constants that differ from the base. **3.** Validate — enforce dependency chains (T40 requires T33, etc.), enforce safety locks (T24–T28 cannot be OFF in live mode), verify data source availability.

This two-layer approach means each profile file is compact — it only contains the deltas from the base, not a full copy of every setting. When we add T43 to the base config, all profiles inherit it automatically unless they explicitly override it.

## 3. The Five Asset Class Profiles

### 3.1 Futures (ES/NQ/CL) — The Native Baseline

Profile file: [profile\\_futures.toml](#)

Futures is the asset class the FLOF Matrix was originally designed for. The profile makes zero toggle changes from the base config because the base IS the Futures config. This profile exists solely as an explicit declaration and for documentation purposes.

DIMENSION	FUTURES CONFIGURATION
Data Source	DataBento (CME). Schema shifting: ohlc-1m (Scouting) → trades + tbbo (Stalking) → mbp-10 (Kill). Connection severed 4PM–8:30AM EST to save 16+ hours of data costs daily.
Toggle Overrides	None. All 42 toggles at base defaults. Full Order Flow suite active (T07, T08, T09). Full Volume Profile (T17, T38). All gates and tiers active.
Sessions / Killzones	NY AM: 9:30–11:30 AM EST. NY PM: 1:30–3:30 PM EST. Data severs outside RTH.
Position Sizing	Contract-based. Tick value fixed (\$12.50 per tick for ES, \$5.00 for NQ). Contracts = $(\text{equity} \times \text{risk}\%) / (\text{stop\_ticks} \times \text{tick\_value})$ . Rounded down to integer.
Unique Characteristics	100% centralized volume (CME is the only exchange). Order Flow data is the most reliable of any asset class. This is where the full system performs at maximum capacity.

### 3.2 Forex (EUR/USD, GBP/JPY, etc.) — Structure-Only Mode

Profile file: [profile\\_forex.toml](#)

Forex is the most constrained profile because the OTC (over-the-counter) structure means there is no centralized exchange. Volume data from your broker represents only that broker's clients, not the global market. This makes all Order Flow, Volume Profile, and absorption logic unreliable. The Forex profile disables these modules entirely and leans 100% on structural SMC and Velez momentum.

DIMENSION	FOREX CONFIGURATION
Data Source	Broker API (OANDA, FXCM, Interactive Brokers). OHLCV data only. No T&S, no L2 order book, no Volume Profile. The Ring Buffer still runs for price tick tracking but is used for velocity detection only, not delta/absorption.
Toggle Overrides	T07 (Order Flow Confirmation) = OFF → OF criterion scores 0 T08 (Absorption Detection) = OFF → No absorption signals T09 (Whale Block Filter) = OFF → No block trade detection T17 (HVN/LVN Stop) = OFF → Falls back to ATR-based stops T18 (Tape Failure Exit) = OFF → No dynamic OF-based exit T36 (Session VWAP) = OFF → No VWAP (volume data unreliable) T37 (MBO Iceberg) = OFF → Already deferred globally T38 (VP Entry Refinement) = OFF → Uses FVG midpoint entry T42 (Chop Detector) = OFF → VA requires reliable volume data
Sessions / Killzones	London Open: 3:00–5:00 AM EST. London/NY Overlap: 8:00–11:00 AM EST. Asian High/Low sweep targets heavily prioritized for the +2 Liquidity Sweep criterion.

<b>Scoring Impact</b>	Max achievable Tier 1: 8 points (OF criterion always 0, so max = 10 – 2 = 8). Tier 1 Gate Check reduced to ≥ 6 (from 7) to compensate for structurally unavailable OF points. Max total: 15 points (17 – 2 OF). Grade thresholds: A+ = 13–15, A = 11–12, B = 8–10, C < 8. Forex trades are HIGHER quality per entry because the only confluence comes from pure structure.
<b>Position Sizing</b>	Lot-based. Standard lot = 100,000 units. Pip value varies by pair (e.g., \$10/pip for EUR/USD standard lot, dynamic for crosses). Lots = (equity × risk%) / (stop_pips × pip_value).
<b>Stop Loss Method</b>	ATR-based (2× 1m ATR) as primary. Structural swing low/high as secondary. Velez 20 SMA used for trailing in Phase 2 (replaces LVN Moat trail since VP is unavailable).

### WHY DISABLING ORDER FLOW IS THE RIGHT CALL FOR FOREX

The other AI correctly identified this. In Forex, your broker's "volume" shows how many of their own clients are trading — not the global FX market volume. A "CVD divergence" calculated from this data tells you about retail sentiment at one broker, not institutional flow. Using it would generate false signals that look like institutional confirmation but are actually noise. Better to score 0 on OF honestly than to score +2 based on meaningless data.

### 3.3 Crypto (BTC/ETH/SOL) — Liquidation-Aware Mode

Profile file: [profile\\_crypto.toml](#)

Crypto retains full Order Flow capability (exchanges provide real volume data) but requires significant adjustments for 24/7 operation, extreme spoofing, liquidation-driven price action, and the absence of traditional session structures.

DIMENSION	CRYPTO CONFIGURATION
<b>Data Source</b>	Free exchange WebSockets (Binance, Bybit). Dual-exchange redundancy (already designed in v1.0). Never uses DataBento for crypto — zero data cost. Full T&S, L2 order book, and OHLCV available.
<b>Toggle Overrides</b>	All OF toggles remain ON (T07, T08, T09) — exchange volume is real. T37 (MBO Iceberg) = OFF — extreme spoofing makes MBO unreliable. Absorption inference via T&S is more robust in crypto. T41 (Rejection Blocks) prioritized — crypto wicks are massive and frequent, making Rejection Blocks the most common high-quality POI type.
<b>Sessions / Killzones</b>	UTC Daily Open: 00:00 UTC (major liquidity reference). UTC Weekly Open: Monday 00:00 UTC. London/NY Overlap: 12:00–16:00 UTC (highest volume window). Asian Session: 00:00–08:00 UTC (sweep targets for London open). No session severing — crypto runs 24/7. Ring Buffer always active.
<b>Constant Overrides</b>	whale_block_threshold = 5.0 (BTC) instead of 50 (ES contracts) spread_quarantine = 3× average (vs. 3 ticks for ES) tick_velocity_threshold = 500% (higher than 400% for ES due to crypto baseline noise) stop_buffer_atr_mult = 0.75 (larger than 0.5 for ES due to liquidation wicks)

<b>Position Sizing</b>	Coin/contract-based depending on exchange (Binance uses quantity, Bybit uses contracts). Size = $(\text{equity} \times \text{risk}\%) / (\text{stop\_distance} \times \text{contract\_value})$ . Leverage configurable but capped by profile (recommended max: 5x).
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### 3.3.1 New Module: LiquidationFeed (Crypto Only)

This is the one genuinely new module required for Crypto that the other AI correctly identified. Liquidation cascades are the dominant price driver in crypto — when a cluster of leveraged positions gets forcibly closed, the resulting market orders create massive directional flow that often sweeps directly into our POIs.

ELEMENT	SPECIFICATION
<b>Data Sources</b>	Exchange liquidation WebSocket streams (Binance provides real-time liquidation events). Third-party aggregators (Coinglass API) for cross-exchange liquidation heatmaps. Funding rate APIs (8-hour snapshots).
<b>Integration Point</b>	Feeds into the Sudden Move Classifier (M12). A large cluster of liquidations at or near a POI is classified as a Type B cascade with the same 50% position size override and absorption requirements.
<b>Scoring Impact</b>	Liquidation direction alignment adds weight to the existing +2 Liquidity Sweep criterion. If liquidation data shows massive long liquidations below a bullish POI, the sweep is confirmed as institutional-grade forced selling (not just organic price discovery). This is not a new scoring criterion — it enriches the existing one.
<b>Funding Rate Filter</b>	If funding rate is extremely negative (shorts paying longs) and the bot wants to go short, the funding rate acts as a soft warning (logged but not gated). If funding rate exceeds $\pm 0.1\%$ per 8 hours, the ConfluenceScorer applies a -1 penalty to the total score. Toggle T43.

## 3.4 Equities (SPY, AAPL, NVDA, etc.) — Gap-Aware Mode

Profile file: `profile_equities.toml`

Individual equities share the core FLOF logic but have three unique characteristics: overnight gaps, fragmented exchange volume, and massive VWAP institutional activity. The profile addresses each.

DIMENSION	EQUITIES CONFIGURATION
Data Source	DataBento SIP (Securities Information Processor). SIP consolidates all 16+ US exchanges and dark pools into a single, authoritative tape. This is MANDATORY for equities — using a single exchange feed would miss 60–80% of volume.
Toggle Overrides	T36 (Session VWAP) = ON with ELEVATED weight. VWAP is the single most important intraday level for equities because institutional algorithms are literally benchmarked against it. T44 (Gap-as-FVG) = ON (NEW toggle, see below). T45 (Dollar-Risk Sizing) = ON (NEW toggle, overrides contract-based sizing). All OF toggles remain ON — SIP data provides genuine consolidated volume.
Sessions / Killzones	Pre-Market: 7:00–9:30 AM EST (gap analysis only, no entries). Opening Drive: 9:30–10:00 AM EST (initial balance formation, HIGH VOLATILITY). NY AM: 10:00–11:30 AM EST (primary Killzone). NY PM: 1:30–3:30 PM EST (secondary Killzone). MOC (Market on Close): 3:45–4:00 PM EST (institutional rebalancing — avoid new entries, tighten exits).
Position Sizing	Dollar-risk per share. Shares = $(\text{equity} \times \text{risk}\%) / (\text{stop\_distance\_dollars})$ . Each stock has a different price and volatility, so the fixed tick-value model used by Futures doesn't apply. The profile dynamically calculates shares based on the specific stock's current price and ATR.

### 3.4.1 New Feature: Gap-as-FVG Detection (T44)

Overnight gaps in equities create price zones where zero intraday volume has transacted — functionally identical to Fair Value Gaps. When the market opens with a gap up, the zone between the previous close and the current open is an unfilled inefficiency that price tends to return to. The other AI correctly identified this.

PROPERTY	SPECIFICATION
Detection	At session open (9:30 AM EST), compare: if $\text{abs}(\text{today\_open} - \text{yesterday\_close}) > 0.5 \times \text{Daily ATR}$ , a Gap-FVG is created. Zone boundaries: $\text{prev\_close}$ to $\text{today\_open}$ . Gap direction: gap up = bearish FVG (supply), gap down = bullish FVG (demand).
POI Treatment	Gap-FVGs are tagged as FVG type and follow all existing FVG rules: freshness tracking, Proximity Halo calculation, Tier 1 scoring eligibility. They receive the +1 Fresh POI criterion on first touch.
Integration with VWAP	If a Gap-FVG coincides with the previous session's closing VWAP level, it receives a +1 VWAP SD Confirmation bonus in Tier 3 because the gap represents a departure from the institutional cost basis.

## 3.5 Options (SPY/QQQ/AAPL Options) — Derivative Routing Mode

Profile file: [profile\\_options.toml](#)

The Options profile is architecturally unique because the analysis and execution operate on different instruments. The entire FLOF Matrix (all 42 toggles, all 3 tiers, all 3 gates) analyzes the UNDERLYING asset (e.g., SPY). When a trade signal is generated, the Execution Manager routes it to an options contract instead of the underlying. The other AI nailed this conceptual split.

DIMENSION	OPTIONS CONFIGURATION
Analysis Target	The UNDERLYING (SPY, QQQ, AAPL, etc.). All POI mapping, confluence scoring, and gate checks run on the underlying's price chart. The options chain is never analyzed for SMC structure — options prices are derivatives of the underlying, not independent instruments.
Data Source	Same as Equities profile for the underlying (DataBento SIP). Additionally: Options Chain API (broker-provided) for real-time Greeks, bid/ask spreads, and open interest.
Execution Override	When the ConfluenceScorer produces a grade $\geq$ B, the signal is intercepted by a new OptionsRouter module (M14) INSTEAD of the standard ExecutionManager order submission. The OptionsRouter selects the appropriate contract and submits the options order.
Toggle Overrides	All analysis toggles identical to Equities (including T44 Gap-as-FVG). T46 (Options Routing) = ON (NEW toggle). When ON, execution routes through OptionsRouter. T17 (HVN/LVN Stop) = OFF for the options position itself. Options stops are managed by underlying price levels triggering options exits, not by Volume Profile of the options chart.
Grade Threshold	OPTIONS MINIMUM: B grade. C grades are always rejected. B grades get minimum options allocation. A and A+ get full allocation. This is stricter than other profiles because options have time decay (theta) working against you, so only higher-conviction setups justify the premium.

### 3.5.1 New Module: OptionsRouter (M14)

ELEMENT	SPECIFICATION
Contract Selection	Direction: Long signal $\rightarrow$ Buy Call. Short signal $\rightarrow$ Buy Put. Expiration (DTE): Configurable. Default: 1–3 DTE for scalps, 5–7 DTE for swing entries. 0-DTE only when grade = A+ AND Killzone timing confirmed (maximum conviction required for maximum theta risk). Strike Selection (Delta): Target Delta = 0.55–0.70 (in-the-money or near-the-money). Higher delta = more directional exposure, less theta decay, tighter bid/ask spread. Configurable per grade: A+ = 0.70 delta (aggressive), B = 0.55 delta (conservative).
Liquidity Filter	Before submitting: verify the selected contract has bid/ask spread $\leq$ \$0.10 (configurable) and open interest $>$ 500. If the contract fails either check, step to the next available strike. If no liquid contract exists within the target delta range, ABORT the trade and log. Illiquid options will destroy R:R through slippage.
Position Sizing	Max risk per trade = same % as underlying grade dictates, but calculated as: Contracts = $(\text{equity} \times \text{risk}\%) / (\text{option\_premium} \times 100)$ . The risk is the TOTAL PREMIUM PAID (worst case = option expires worthless). This is fundamentally different from futures/equities where risk = stop distance.
Exit Routing	Phase 1 (Partial): When underlying hits Phase 1 target, sell 50% of options contracts at market. Phase 2 (Runner): Trail based on UNDERLYING price levels (not options Greeks). When the underlying's structural trail triggers, exit the remaining options.

	Theta Protection: If the trade has not hit Phase 1 within 50% of the DTE window, exit all contracts at market regardless of underlying price. Time decay is the silent killer.
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## 4. Master Toggle Matrix by Asset Class

This matrix shows the state of every critical toggle across all five profiles. ON = active (green). OFF = disabled (red). MOD = active but with modified constants (gold). Toggles not listed are ON across all profiles (no override needed).

TOGGLE	FUTURES	FOREX	CRYPTO	EQUITIES	OPTIONS	NOTES
T07 Order Flow	ON	OFF	ON	ON	ON	Forex: no centralized vol
T08 Absorption	ON	OFF	ON	ON	ON	
T09 Whale Blocks	ON	OFF	MOD	ON	ON	Crypto: 5 BTC threshold
T10 Killzone Timing	ON	MOD	MOD	MOD	MOD	Each has unique sessions
T17 HVN/LVN Stop	ON	OFF	ON	ON	OFF	Forex/Options: ATR stops
T18 Tape Failure	ON	OFF	ON	ON	ON	Forex: no tape data
T36 Session VWAP	ON	OFF	ON	MOD	MOD	Equities/Options: elevated
T37 MBO Iceberg	OFF	OFF	OFF	OFF	OFF	Deferred globally
T38 VP Entry Refine	ON	OFF	ON	ON	OFF	Forex/Options: no VP
T41 Rejection Blocks	ON	ON	MOD	ON	ON	Crypto: prioritized
T42 Chop Detector	ON	OFF	ON	ON	ON	Forex: needs real vol
T43 Funding Rate	OFF	OFF	ON	OFF	OFF	Crypto only
T44 Gap-as-FVG	OFF	OFF	OFF	ON	ON	Equities/Options only
T45 Dollar-Risk Size	OFF	OFF	OFF	ON	OFF	Equities only
T46 Options Routing	OFF	OFF	OFF	OFF	ON	Options only

## 5. New Feature Toggles (T43 – T46)

ID	FEATURE	LAYER	DEFAULT	DEPENDS ON	WHAT HAPPENS WHEN OFF
T43	Crypto Funding Rate Filter	Structure	OFF	— (root)	No funding rate data fetched. No -1 penalty applied. Set to ON only in Crypto profile.
T44	Gap-as-FVG Detection	Structure	OFF	T01	Overnight gaps ignored by POIMapper. Set to ON only in Equities/Options profiles.
T45	Dollar-Risk Position Sizing	Execution	OFF	— (root)	Uses contract/lot-based sizing. Set to ON only in Equities profile.
T46	Options Chain Routing	Execution	OFF	— (root)	Trade signals execute directly on the analyzed instrument. Set to ON only in Options profile.

### ALL NEW TOGGLES DEFAULT TO OFF

T43–T46 are all OFF in the base config. They are only activated by the specific asset class profile that needs them. This means the Futures profile (which uses the base config with zero overrides) is completely unaffected by these additions. No risk of accidentally enabling options routing on a futures bot, or funding rate penalties on an equities bot.

## 6. New Function Specifications

### 6.1 Profile Loader

FUNCTION	INPUTS	OUTPUTS	DESCRIPTION & RATIONALE	MODULE
<code>load_profile()</code>	<code>base_config_path: str</code> <code>profile_path: str</code>	<code>MergedConfig</code>	Loads base TOML first, then overlays profile TOML. Profile values override base values. Validates dependency chains and safety locks after merge. Logs every override applied for auditability.	ConfigLoader
<code>validate_profile()</code>	<code>config: MergedConfig</code>	<code>bool, list[str] (errors)</code>	Checks: (1) all toggle dependencies satisfied, (2) safety toggles not OFF in live mode, (3) data source available for enabled features (e.g., T07 ON requires volume data source), (4) scoring thresholds consistent with disabled toggles.	ConfigLoader

### 6.2 Forex-Specific Adjustments

FUNCTION	INPUTS	OUTPUTS	DESCRIPTION & RATIONALE	MODULE
<code>adjust_gate_thresholds()</code>	<code>profile: str</code> <code>base_thresholds: dict</code>	<code>adjusted_thresholds: dict</code>	For Forex: lowers Tier 1 gate from 7 to 6 (compensating for the structurally impossible +2 OF points). Adjusts grade boundaries: A+ = 13–15, A = 11–12, B = 8–10, C < 8. Called once at profile load.	ConfluenceScorer

### 6.3 Crypto LiquidationFeed

FUNCTION	INPUTS	OUTPUTS	DESCRIPTION & RATIONALE	MODULE
<code>connect_liquidation_ws()</code>	<code>exchange: str</code>	<code>WebSocket handle</code>	Connects to Binance/Bybit liquidation event stream. Receives real-time forced liquidation events: side, size, price. Filters for the tracked instrument only.	LiquidationFeed
<code>get_funding_rate()</code>	<code>instrument: str</code>	<code>rate: float, next_reset: datetime</code>	Queries exchange API for current funding rate and next reset time. If $\text{abs}(\text{rate}) > 0.001$ (0.1%), flags extreme funding. Cached per 8-hour cycle.	LiquidationFeed

<code>evaluate_funding_penalty()</code>	rate: float trade_direction: str	int (0 or -1)	Returns -1 if the trade direction opposes the extreme funding rate (shorting when shorts pay heavily, or longing when longs pay heavily). Otherwise returns 0. Applied as a score modifier in the ConfluenceScorer.	LiquidationFeed
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## 6.4 Equities Gap Detection

FUNCTION	INPUTS	OUTPUTS	DESCRIPTION & RATIONALE	MODULE
<code>detect_overnight_gap()</code>	prev_close: float today_open: float daily_atr: float	GapFVG or None	At session open, checks if gap size > 0.5 × Daily ATR. If yes, creates a FVG-typed POI with zone = prev_close to today_open. Gap up = bearish FVG, gap down = bullish FVG. Subject to normal freshness tracking.	POIMapper
<code>calculate_dollar_risk_size()</code>	equity: float risk_pct: float entry: float stop: float	shares: int	Shares = floor((equity × risk_pct) / abs(entry - stop)). Replaces contract-based sizing for equities. Each stock has a unique price so fixed tick values don't apply.	ExecutionManager

## 6.5 Options Router (M14)

FUNCTION	INPUTS	OUTPUTS	DESCRIPTION & RATIONALE	MODULE
<code>select_contract()</code>	underlying: str direction: str grade: str dte_config: dict	OptionsContract	Queries the options chain API. Selects strike based on target delta (A+ = 0.70, A = 0.65, B = 0.55). Selects expiration based on grade (A+ may use 0–1 DTE, B uses 5–7 DTE). Returns the contract with best liquidity within the target parameters.	OptionsRouter
<code>check_liquidity()</code>	contract: OptionsContract max_spread: float min_oi: int	bool	Validates that bid/ask spread ≤ max_spread and open_interest > min_oi. If false, steps to next strike. If no liquid strike found in delta range, ABORT trade.	OptionsRouter
<code>calculate_options_size()</code>	equity: float risk_pct: float premium: float	contracts: int	Contracts = floor((equity × risk_pct) / (premium × 100)). Total premium paid =	OptionsRouter

			maximum possible loss. This is fundamentally different from directional sizing where risk = stop distance.	
<b>manage_theta_exit()</b>	position: OptionsPosition dte_remaining: float dte_original: float phase1_hit: bool	bool (should_exit)	If the trade has not hit Phase 1 target within 50% of the DTE window, returns true (exit all). Theta decay accelerates exponentially in the final 50% of a contract's life.	OptionsRouter

## 7. Profile Configuration Examples

### 7.1 profile\_forex.toml (Excerpt)

```
# FLOF Matrix - Forex Profile
# Overrides ONLY. All unspecified values inherit from flof_base.toml

[profile]
asset_class = "forex"
description = "Structure-only mode. No centralized volume."

[toggles.execution]
T07_order_flow_confirmation = false
T08_absorption_detection = false
T09_whale_block_filter = false
T11_fast_move_switch = false # No tape speed routing

[toggles.risk]
T17_hvn_lvn_stop = false
T18_tape_failure_exit = false

[toggles.velez]
T36_session_vwap = false

[toggles.execution]
T38_vp_entry_refinement = false

[toggles.safety]
T42_chop_detector = false

[constants.scoring]
tier1_gate_minimum = 6      # Lowered from 7 (OF always 0)
max_achievable_total = 15    # 17 minus 2 unavailable OF
grade_a_plus_min = 13
grade_a_min = 11
grade_b_min = 8

[constants.killzones]
london_open = ["03:00", "05:00"] # EST
london_ny_overlap = ["08:00", "11:00"] # EST

[constants.position_sizing]
method = "lots"
standard_lot = 100000

[constants.stop_loss]
method = "atr"
atr_multiple = 2.0
trail_method = "20sma" # Velez 20 SMA trail instead of LVN
```

### 7.2 profile\_options.toml (Excerpt)

```
# FLOF Matrix - Options Profile
```

```
# Analyzes underlying, routes to options chain

[profile]
asset_class = "options"
underlying  = "SPY"  # The instrument to analyze

[toggles.structure]
T44_gap_as_fvg = true

[toggles.execution]
T46_options_routing = true
T17_hvn_lvn_stop    = false  # Stops on underlying price, not VP

[constants.scoring]
min_grade_for_entry = "B"  # Options require >= B (theta risk)

[constants.options]
default_dte_scalp      = 1
default_dte_swing       = 7
target_delta_a_plus     = 0.70
target_delta_a          = 0.65
target_delta_b          = 0.55
max_bid_ask_spread     = 0.10  # dollars
min_open_interest       = 500
theta_exit_pct          = 0.50  # Exit if 50% of DTE elapsed without Phase 1
max_0dte_grade          = "A+" # Only A+ can use 0-DTE
```

## 8. Complete System Summary

COMPONENT	TOTAL
Feature Toggles	46 (T01–T46). Base: 42 universal + 4 asset-class-specific (T43–T46). Plus 2 deferred (T35 Market Phase, T37 MBO Iceberg).
Asset Class Profiles	5: Futures (baseline), Forex (structure-only), Crypto (liquidation-aware), Equities (gap-aware), Options (derivative routing).
Modules	15 total: 12 original + SessionProfiler (v3.1) + LiquidationFeed (Crypto) + OptionsRouter (Options).
New POI Types	7 total: ORDER_BLOCK, FVG, LIQUIDITY_POOL, SYNTHETIC_MA, REJECTION_BLOCK, BREAKER_BLOCK, GAP_FVG.
Codebases	1. All five bot modes run from the same codebase with different TOML profile configurations.
Scoring Flexibility	Grade thresholds are profile-configurable. Forex uses adjusted gates (6 instead of 7) and adjusted grade boundaries to account for structurally unavailable OF points.

IMPLEMENTATION PRIORITY
Phase 1: Build and prove the Futures profile first. This is the full system with all 46 toggles available. Backtest, paper trade, go live.
Phase 2: Deploy the Crypto profile. Most infrastructure already exists (free WebSocket data, Ring Buffer, OF engine). Add the LiquidationFeed module.
Phase 3: Deploy Forex. This is the simplest profile (most toggles OFF). Just needs the adjusted gate thresholds and session times.
Phase 4: Deploy Equities. Requires SIP data source integration and Gap-as-FVG detection.
Phase 5: Deploy Options. Most complex new module (OptionsRouter). Requires broker options chain API integration. Build last because it depends on a proven Equities analysis layer.

E N D O F D O C U M E N T

FLOF Matrix — Multi-Asset Class Profile System v1.0

*Read in conjunction with: Rubric v3.0, v3.1 Addendum, Engineering Specification, Sudden Move Policy, and HTF MA Integration & Feature Toggle System.*