

ArcTrigger

MoneyVersion 1.0

Documentation

CHANGELOG

ArcTrigger Changelog

MoneyVersion 1.0 (MV 1.0) - Current Build

Major Changes

1. Polygon Service Removal for Options Pricing

- **Removed:** All Polygon fallback logic for option premium fetching
- **Changed:** ``get_option_premium()`` now uses ONLY IBKR TWS
- **Impact:** Option premiums are fetched exclusively from Interactive Brokers
- **Files Modified:**
 - ``Services/tws_service.py`` - Removed Polygon fallback calls
 - Removed ``polygon_service`` import from ``tws_service.py``

2. Strike Loading Validation & Filtering

- **Added:** Validation to check if strike is selected before order placement
- **Added:** Filtering of invalid strikes (None, non-numeric, ≤ 0) when populating strike combo box
- **Impact:** Prevents "could not convert string to float" errors
- **Files Modified:**
 - ``view.py`` - Added validation in ``place_order()`` and filtering in ``_populate_strike_combo()``

3. 2.5 Step Calculation Removal

- **Removed:** Hardcoded 2.5 step calculation for strike recalculation
- **Changed:** Premarket trigger rebasing now keeps original strike instead of recalculating
- **Impact:** Original strike is preserved when rebasing premarket triggers
- **Files Modified:**
 - ``view.py`` - Removed "Use 2.5-step" checkbox
 - ``Services/order_wait_service.py`` - Removed step calculation in ``_handle_premarket_trigger()``
 - ``model.py`` - Removed step calculation in rebase logic

Technical Details

Option Premium Fetching

- **Before:** Tried IBKR first, fell back to Polygon if unavailable
- **After:** IBKR only - returns `None` if TWS unavailable or market closed
- **Rationale:** Eliminates inconsistent pricing from multiple sources

Strike Validation

- Validates strike selection before converting to float
- Filters invalid strikes from option chain data
- Provides clear error message if no strike selected

Strike Preservation

- When premarket trigger hits, only trigger price is updated
- Original strike remains unchanged
- No automatic strike recalculation based on trigger price

Previous Versions

Version 0.x (Pre-MV 1.0)

- Initial development
- Polygon fallback for option pricing
- 2.5 step strike calculation
- Basic strike loading without validation

TESTING CHECKLIST

ArcTrigger Testing Checklist - MV 1.0

Pre-Release Testing

■ *Critical Functionality Tests*

1. Option Premium Fetching

- [] **Test:** Connect to TWS and fetch option premium during market hours
- Expected: Premium returned from IBKR
- Verify: Log shows "Uses ONLY IBKR TWS"
- [] **Test:** Try to fetch premium when TWS disconnected
- Expected: Returns `None`, no crash
- Verify: Error logged but app continues
- [] **Test:** Try to fetch premium in premarket
- Expected: Returns `None` (no Polygon fallback)
- Verify: No fake fallback price used

2. Strike Loading & Validation

- [] **Test:** Select symbol, maturity, and verify strikes populate
- Expected: Valid strikes appear in combo box
- Verify: No empty/invalid strikes shown
- [] **Test:** Try to place order without selecting strike
- Expected: Error message "Please select a strike price"
- Verify: No crash, clear error message
- [] **Test:** Verify strike filtering works
- Expected: Only valid numeric strikes > 0 appear
- Verify: No None, empty, or negative strikes

3. Order Placement Flow

- [] **Test:** Place order with all fields filled correctly
- Expected: Order created and queued
- Verify: Order appears in watchers/positions

- [] **Test:** Place order in premarket (if applicable)
- Expected: Order waits for market open
- Verify: No premium fetch attempted in premarket

4. Premarket Trigger Rebase

- [] **Test:** Create order in premarket, trigger hits
- Expected: Trigger rebased, strike remains original
- Verify: Strike not recalculated with 2.5 step
- Verify: Only trigger price updated

5. Quantity Calculation

- [] **Test:** Place order with position size, verify quantity calculated correctly
- Expected: $\text{Quantity} = \text{position_size} / (\text{premium} * 100)$
- Verify: No 4x quantity bug
- Verify: Uses actual premium from IBKR (not fallback)

■ *Integration Tests*

TWS Connection

- [] Connect to TWS paper trading
- [] Verify connection status shows "■ CONNECTED"
- [] Verify market data farm connections OK

Order Execution

- [] Place test order (small size, paper trading)
- [] Verify order sent to TWS
- [] Verify order status updates correctly
- [] Verify fill confirmation received

■ *Regression Tests*

Known Issues Fixed

- [] **4x Quantity Bug:** Verify quantity calculated correctly
- [] **Strike Loading Error:** Verify no "could not convert string to float" errors
- [] **Polygon Fallback:** Verify no Polygon calls for option pricing
- [] **2.5 Step:** Verify original strike preserved on rebase

■ *UI/UX Tests*

- [] Version number "MV 1.0" visible in banner
- [] All buttons functional
- [] Order frames create correctly
- [] Status messages clear and informative
- [] Error messages user-friendly

■ ■ *Edge Cases*

- [] Market closed - verify graceful handling
- [] TWS disconnects mid-operation - verify reconnection
- [] Invalid symbol entered - verify error handling
- [] Missing required fields - verify validation
- [] Multiple orders simultaneously - verify no conflicts

Post-Release Monitoring

Logs to Watch

- `[TWSService] get_option_premium` - Verify IBKR only
- `[WaitService]` - Verify order flow
- `Order failed` - Check for any new errors
- `Quantity recalc error` - Should not appear

Metrics to Track

- Order success rate
- Premium fetch success rate
- Trigger hit accuracy
- Quantity calculation accuracy

Known Limitations (MV 1.0)

1. **No Polygon Fallback:** If IBKR unavailable, option premium returns `None`
2. **No Premium in Premarket:** Premium only fetched when trigger hits (after market open)
3. **Original Strike Preserved:** Strike not auto-adjusted on premarket rebase

Test Environment

- **TWS Version:** Paper Trading
- **Market Hours:** Test during RTH and premarket
- **Symbols:** Test with liquid options (SPY, QQQ, TSLA, NVDA)

Last Updated: MV 1.0 Build

Test Status: ■■ Pending