

Algorithm Training Guide

Q1 2017

TIMED ORDER

Key Parameters : START TIME - END TIME

Behaviour

Start Time represents the effective time at which an order will begin to become eligible to trade. If this optional parameter is not specified then a start time of the current time or market open (whichever is later) is used.

End Time represents the time when the order should cease trading. An End Time of 16:30:00 will include the closing auction. An End Time of 16:29:59 would stop the order just prior to the auction

WOULD PRICE

Key Parameter : LIMIT PRICE

Behaviour

Would Price if selected, will take any available liquidity up to the limit price. This option effectively provides a 'get-it-done' price for the order should the price move favourably to a certain level.

When using Would Price feature, the overall order limit will not be breached. If the Would Price is more aggressive than the order's limit price, the order will be rejected.

AUCTIONS PARTICIPATION

Key Parameters : EXCLUDE OPENING (Yes vs No) - EXCLUDE CLOSING (Yes or No)

BEHAVIOUR

Exclude Open/Close explicitly indicates whether the order should participate in the opening and closing auctions. These options will override the default participation for the strategy in question.

VOLUME CAP

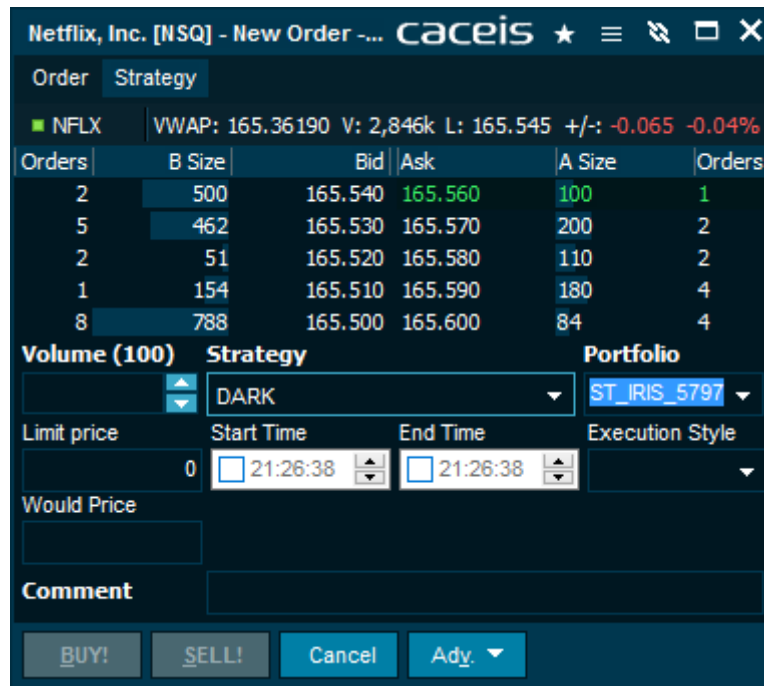
Key Parameter : PARTICIPATION RATE

BEHAVIOUR

Participation Rate, when selected, caps the quantity to be executed to a percentage of the stock's global executed volume.

DARK

Accesses dark only liquidity.



KEY PARAMETERS

URGENCY (Optional). Select from Patient to Highly Aggressive

Characteristics

Does not aim to complete

Does not participate in auction

URGENCY: Lower urgency settings apply more conservative price constraints, venue selection logic and default minimum fill quantities compared to higher urgency settings. High urgency is the default setting

What it does

Dark-only liquidity-seeking strategy

When to use

To access dark liquidity

Larger orders

To mitigate risk of adverse market impact

To minimise information leakage (does not display quotes)

The Dark trading logic employs MinQty by default when accessing dark venues to minimise information leakage and gaming

When to avoid

When you want to participate in lit markets

Need to complete

When execution certainty is more important than market impact or timing risk

VWAP — Volume Weighted Average Price

The VWAP strategy attempts to match the volume weighted average price over a given period of time. It works by distributing an order over a specified time based on historical trading volume patterns. Volume constraints are available.

Netfix, Inc. [NSQ] - New Order -... caceis

Order Strategy

NFLX VWAP: 165.36203 V: 2,848k L: 165.580 +/- -0.030 -0.02%

Orders	B Size	Bid	Ask	A Size	Orders
4	400	165.580	165.610	410	5
2	109	165.570	165.620	10	1
3	250	165.560	165.630	56	3
2	150	165.550	165.640	2	1
2	439	165.540	165.650	304	3

Volume (100) Strategy Portfolio

Limit price Start Time End Time Participation Rate

0 21:27:25 21:27:25

Would Price Execution Style Primary Only Excl Opening Auct

Excl Closing Auct

Comment

BUY! SELL! Cancel Adv.

KEY PARAMETERS

% OF VOLUME CAP (Optional)

Characteristics

Aims to complete

Participates in all auctions by default

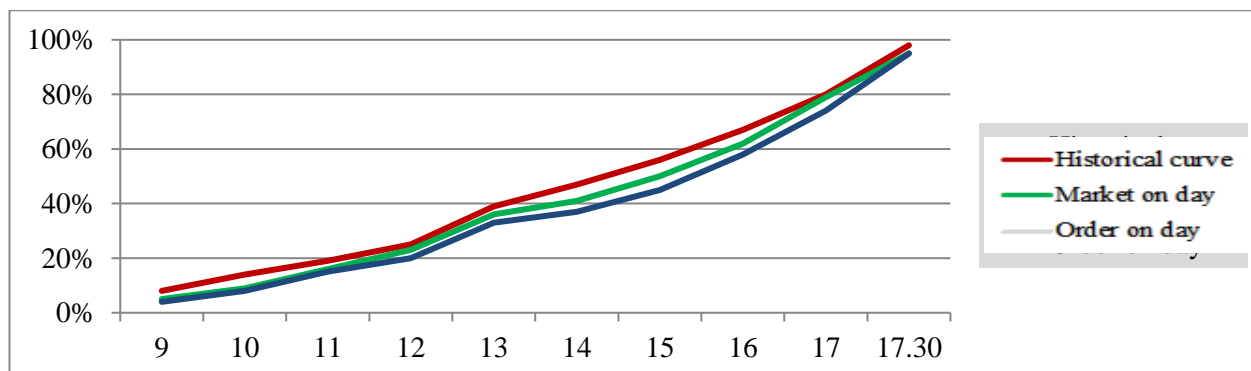
% Volume: The option provides the ability to place a constraint on the maximum percentage of trade volume in which the order should participate

What it does

Attempts to minimise the execution shortfall relative to the full day or interval VWAP

Trading trajectory created based on an Intraday Volume Prediction model

Multi-Factor Volume Profile for special events : quarter/month-end days, future/option expiry days, index rebalance



When to use

When you aim to target a volume weighted average price for your execution

For products with a regular trading pattern

When to avoid

When market volumes are deviating significantly from historical distribution
High volatility periods
Illiquid names

TWAP — Time Weighted Average Price

TWAP aims to execute trades evenly over a specified time period.

TWAP differs from the VWAP strategy as TWAP aims to trade evenly throughout the specified time period regardless of volume.

Netfli, Inc. [NSQ] - New Order -... caceis

Order Strategy

NFLX VWAP: 165.36217 V: 2,849k L: 165.570 +/- -0.040 -0.02%

Orders	B Size	Bid	Ask	A Size	Orders
5	359	165.550	165.590	300	3
4	400	165.540	165.600	200	2
3	259	165.530	165.610	10	1
2	165	165.520	165.620	60	2
1	100	165.510	165.630	216	4

Volume (100) Strategy Portfolio

Limit price 0 Start Time 21:27:50 End Time 21:27:50 Participation Rate

Would Price Excl Opening Auct Excl Closing Auct

Comment

BUY! SELL! Cancel Adv.

KEY PARAMETERS

% OF VOLUME CAP (Optional)

URGENCY (Optional). Select from Patient to Highly Aggressive

Characteristics

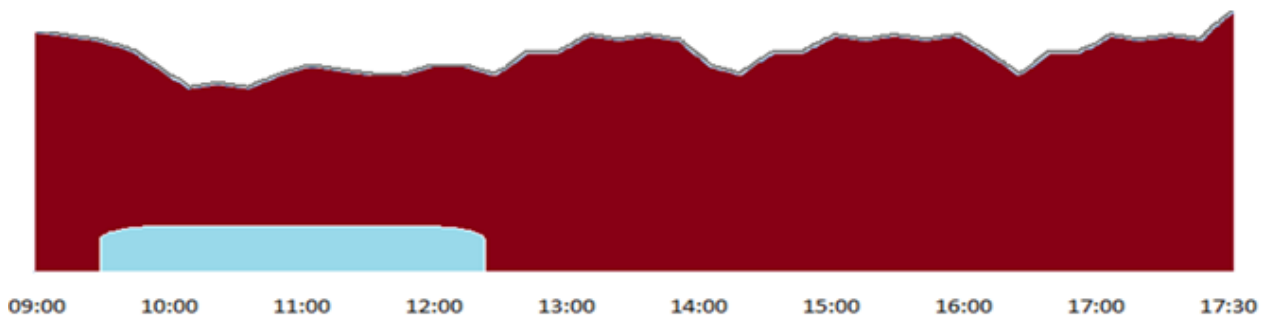
Aims to complete

Participates in all auctions by default

What it does

Attempts to trade evenly over the active trading time

Randomises size and timing of child orders to minimise market footprint



When to use

Because not based on volume Twap spreads execution equally over a specified period
For orders that you would like to trade at regular intervals
For markets/instruments without a predictable volume distribution

When to avoid

If a repetitive trading pattern is undesirable

Arrival Price

Benchmarks the order against the mid-point of the bid-ask spread when the order enters the market, and attempts to manage the trade-off between market impact and execution risk.



KEY PARAMETERS

URGENCY (Required). Select from Patient to Highly Aggressive
% OF VOLUME CAP (Optional)

Characteristics

Aims to complete
Participates in all auctions by default

What it does

Attempts to minimise implementation shortfall to arrival price, whilst managing for market risk vs. timing risk
Dynamically responds to real-time changes in liquidity, volatility and spread
Trading trajectory is created based on an Intraday Volume Prediction model and a Multi-Factor Volume Profile model
As volume changes, the strategy adjusts the trading trajectory accordingly

When to use

Orders benchmarked to arrival price
For situations where you want to control the pace of execution according to your designated level of urgency

When to avoid

On days where there is high volatility periods or when volume distribution is uncertain

Close

The Close strategy attempts to manage the trade-off between the execution risk of trading before the close and the effects of impacting the closing price.

Netfix, Inc. [NSQ] - New Order ... caceis

Order Strategy

■ NFLX VWAP: 165.36286 V: 2,858k L: 165.610 +/-: 0.000 0.00%

Orders	B Size	Bid	Ask	A Size	Orders
5	378	165.600	165.610	400	3
2	52	165.590	165.620	400	4
5	512	165.580	165.630	195	2
2	200	165.570	165.640	102	2
3	270	165.560	165.650	240	2

Volume (100) Strategy Portfolio

ONCLOSE ST_IRIS_5797

Limit price 0

Comment

BUY! SELL! Cancel Adv. ▾

Characteristics

Aims to complete
Participates in Closing Auction

What it does

Targets the day's closing price

When to use

For orders where you are benchmarked to the current day's closing price

When to avoid

If concerned about market impact on a large order or an order in an illiquid name

Percentage of Volume (POV)

Trades at a specified percentage of market volume and dynamically adjusts to real-time changes in volume.

Orders	B Size	Bid	Ask	A Size	Orders
2	400	165.620	165.640	300	1
5	508	165.600	165.640	102	2
3	250	165.590	165.650	340	3
4	404	165.580	165.660	160	3
4	367	165.570	165.670	110	2

KEY PARAMETERS

URGENCY (Optional). Select from Patient to Highly Aggressive
% OF VOLUME TARGET (Required)

Characteristics

Participates in all auctions by default

URGENCY:

Higher urgency will attempt to more closely track the target participation rate; this can be at the expense of execution performance since the strategy may be forced to cross the spread more often.

Lower urgency will attempt to track the percentage of volume, but they give the strategy greater discretion to slow down or speed up in order to attempt to improve execution performance

What it does

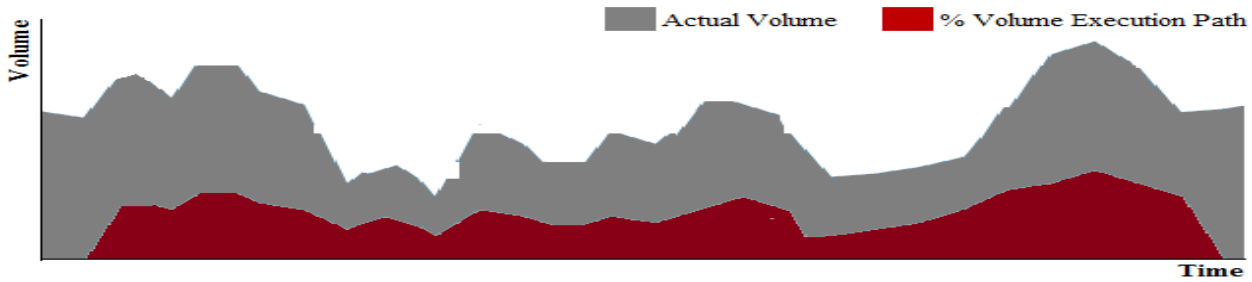
Attempts to trade in line with consolidated lit volume at a user specified participation rate

Volume forecasts are based on composite volume and continually adjust to intraday and volume forecasts

Tends to cross the spread in order to keep up with executed volume

Trades after the fact, causing it to chase volume

The order is not guaranteed to complete. It will trade as quickly as market volume permits



When to use

For orders where your goal is participation with volume with lower focus on price or impact

When to avoid

When trading illiquid stocks the strategy may pay the spread continually in order to keep up with traded volume
 When approaching market close or end time and you must complete the order
 High volatility periods or when volume distribution is uncertain
 Multiple orders on the same stock during the same period of time

Liquidity Seeker

Seeks liquidity in both lit and dark venues.

Orders	B Size	Bid	Ask	A Size	Orders
3	258	165.600	165.640	203	3
1	100	165.590	165.650	430	3
4	414	165.580	165.660	34	2
2	200	165.570	165.670	284	5
1	100	165.560	165.680	434	5

Volume (100) **Strategy** **Portfolio**
 [Dropdown] LIQUIDITYSEEKER ST_IRIS_5797
 Limit price: 0 Start Time: 21:30:10 End Time: 21:30:10 Execution Style: [Dropdown]
 Participation Rate: [Dropdown] Would Price: [Dropdown] Excl Opening Auct: [Dropdown] Excl Closing Auct: [Dropdown]

Comment [Text Area]

BUY! SELL! Cancel Adv. [Dropdown]

KEY PARAMETERS

URGENCY (Required). Select from Patient to Highly Aggressive
% OF VOLUME CAP (Optional)

Characteristics

Does not aim to complete
 Does not participate in either the opening or closing auction by default

What it does

Strategy seeks liquidity across lit, hidden and select dark venues.

At Aggressive level the Algo executes using IOC, Hidden and dark order types to capture maximum liquidity whilst attempting to balance the effects of market impact.

At Normal level the Algo executes using IOC, Hidden and dark order types against the displayed quote whilst interacting with dark and hidden order books.

At Patient level the Algo will not cross the spread to take the displayed quote. Algo will only send dark and hidden orders.

When to use

- Orders benchmarked to arrival price
- To seek liquidity in both lit and dark venues
- Want to take a view on stock price

When to avoid

- When trading illiquid stocks the strategy may continually pay the spread when executing using the higher urgencies
- Multiple orders during the same period of time for the same stock
- When approaching market close or end time and must complete order

Iceberg

shows a small portion of the order vs the global order size.



KEY PARAMETERS

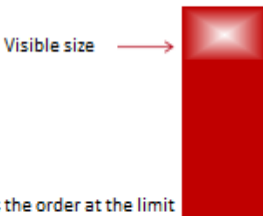
Max Floor

Used to specify the size that has to be shown on the order book

Limit

To indicate the price at which orders should be placed in the order book.

Native Iceberg



If possible the native Iceberg also fills the order at the limit

Caceis Iceberg

