



Alpha IntraSpread™ Facility

Last Updated July 13, 2010

Alpha IntraSpread™ facility, a set of new order types offered by Alpha ATS, allows Subscribers to seek order matches within their firm without pre-trade transparency, with guaranteed price improvement for active orders. The IntraSpread™ facility is available to all Subscribers and for all symbols traded on Alpha ATS.

The two new order types introduced by Alpha IntraSpread™ facility are Dark order and Seek Dark Liquidity™ (SDL™) order.

Dark Order

Dark order is a fully hidden order, used to manage passive interest with no pre-trade transparency, and offer price improvement to tradable incoming orders.

- Dark orders have no pre-trade transparency as information on Dark orders is not disseminated on any public data feeds.
- Price of a Dark order is calculated as an offset of the NBBO by adding the price offset to the national best bid for a buy order and subtracting it from the national best offer for a sell order. Price of the Dark order can optionally be capped.
- Price offset is calculated as a percentage of the NBBO spread with value expressed as 10%, 20%, 30% ... 90%, but capped to one standard price increment. If either side of the NBBO is not set, or the NBBO is locked or crossed, Dark orders will not trade.
- Dark orders are day only orders and must be for a board lot quantity. Dark orders cannot be Iceberg, On-Stop, Inside Match, AON, FOK, FAK, MOO, LOO, MOC, Special Terms, Bypass, Passive Only, TTM or ROC.
- Dark orders can be amended, including quantity, price offset and price cap, in addition to other standard amendable order attributes.
- Dark orders trade only with incoming SDL™ orders that are tradable at the calculated price of the Dark order. Dark orders do not trade with each other.
- Trades are disseminated on the public data feed in real-time. These trades do not set the Alpha last sale price (ALSP) or the NLSP. Trade prices may have up to three decimal places for prices above \$0.50 and up to four decimal places for prices below \$0.50.
- Dark orders are accepted in Pre-Open and Continuous trading sessions (from 7:00am to 4:00pm). Dark orders trade in the Continuous trading session but do not participate in opening or closing auctions.

Seek Dark Liquidity™ (SDL™) Order

SDL™ order is used to interact with the dark liquidity of the same Subscriber.

- SDL™ orders are "immediate-or-cancel" - they trade with eligible Dark orders to the extent possible, and any residual is cancelled. Price can be market or limit.
- SDL™ orders only trade with Dark orders and do not interact with other transparent orders in the Alpha CLOB. In the first phase of the Alpha IntraSpread™ facility, SDL™ orders only match with Dark orders from the same Subscriber.
- SDL™ orders must be for a board lot quantity, and cannot be Iceberg, On-Stop, Inside Match, AON, FAK, MOO, LOO, MOC, Special Terms, Bypass, Passive Only, TTM or ROC.
- SDL™ orders are accepted only during Continuous trading session (from 9:30am to 4:00pm)



Alpha IntraSpread™ Facility

Last Updated July 13, 2010

Example

NBBO is 25.02 – 25.05

Alpha order book on the bid side is set as follows:

Order #	Visibility	Bid Dealer	Bid Size	Bid Price
1	Dark	A	1,000	NBBO+50%
2	Dark	B	1,000	NBBO+20%
3	Dark	A	1,000	NBBO+10%
4	Transparent	B	100	25.02
5	Transparent	A	100	25.02

If dealer A enters SDL™ order #6 to sell 3,000 at 25.02, the following trades will occur:

- 1,000 @ 25.03 (order #6/order #1. Peg offset for order #1 capped to one penny.)
- 1,000 @ 25.023 (order #6/order #3)

Remaining 1,000 shares of order #6 are cancelled.

Note that order #6 did not trade with order #2 as they are from two different dealers. Also, order #6 did not trade with orders #4 and #5 as SDL™ orders do not interact with transparent orders in Alpha CLOB.

Alpha Order Router and Dark Liquidity

An optional Route to Alpha Dark™ (RAD™) feature is available for the Alpha Order Router TTM Service to support matching with Alpha dark liquidity while still ensuring matching at best available prices on transparent marketplaces.

Any TTM order marked as RAD™ will be first sent to Alpha marketplace as an SDL™ order. Any unfilled quantity will be sent to transparent marketplaces using the standard Alpha Order Router's TTM Service.

Optionally, Subscribers may modify any other order routing solution to send SDL orders to Alpha IntraSpread™ facility prior to routing to other visible markets.

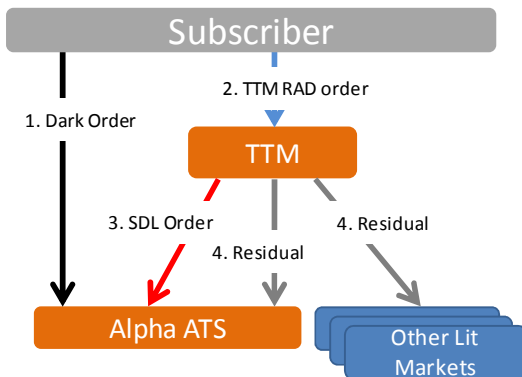


Figure 1: Subscriber using Alpha TTM Service

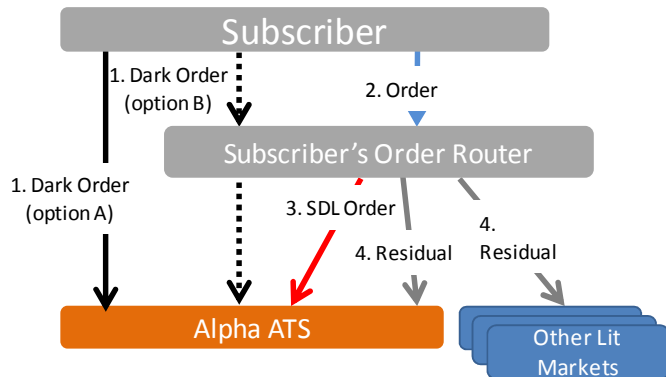


Figure 2: Subscriber using other order routing solutions



Alpha IntraSpread™ Facility

Last Updated July 13, 2010

EMAPI and FIX Protocol Changes

EMAPI Fields

New/Updated	Attribute	Type	Comment
New	visibility	[ref] Integer (EmapiVisibilityTypes)	Indicates a dark or a transparent order. If set to DARK, priceCondition must be set to PEG_BEST_BID or PEG_BEST_OFFER. If not set, defaults to TRANSPARENT. Supported on: EmapiOrderInsertReq EmapiOrderUpdateReq EmapiPrivateOrderbookEvent
Updated	price	[ref] Long Integer	For non-pegged orders represents the price of the order. For pegged orders, if included, represents the peg cap price. Supported on: EmapiOrderInsertReq EmapiOrderUpdateReq EmapiPrivateOrderbookEvent
Updated	priceCondition	[ref] Integer (EmapiPriceConditionTypes)	Determines how the order is priced. Extended to include PEG_BEST_BID and PEG_BEST_OFFER values.
New	pegOffsetType	[ref] Integer (EmapiPegOffsetTypes)	Specifies the peg offset type. Required if priceCondition is set to PEG_BEST_BID or PEG_BEST_OFFER. Must be set to PERCENT for Dark orders. Supported on: EmapiOrderInsertReq EmapiOrderUpdateReq EmapiPrivateOrderbookEvent
New	pegOffset	[ref] Integer	Only allowed for Dark orders. Percentage of NBBO spread. Allowed values are 10, 20, 30, 40, 50, 60, 70, 80 and 90. Bid Dark order is pegged to NBB + pegOffset. Ask Dark order is pegged to NBO – pegOffset. Required if priceCondition is set to PEG_BEST_BID or PEG_BEST_OFFER. Supported on: EmapiOrderInsertReq EmapiOrderUpdateReq EmapiPrivateOrderbookEvent
New	seekDarkLiquidity	[ref] Boolean	Specifies if the order will check for dark match (SDL™ order). If not set, defaults to FALSE. Supported on: EmapiOrderInsertReq EmapiPrivateOrderbookEvent
New	routingInstruction	[ref] Integer (EmapiRoutingInstructions)	Defines the routing instruction for the order. Can only be set if ttmFlag is TRUE. Supported on: EmapiOrderInsertReq EmapiOrderUpdateReq EmapiPrivateOrderbookEvent



EMAPI Constant Groups

EmapiSubTradeTypes (extended)

Sub-type of trade message.

Data type: integer

Name	Value	Comment
DARK_TO_TRANSPARENT	4	When Dark orders trade with SDL orders. For private trade events only.

EmapiVisibilityType (new)

Describes whether an order is transparent or dark

Data type: integer

Name	Value	Comment
TRANSPARENT	1	Order is visible in accordance with the market model.
DARK	2	Order is not visible.

EmapiPegOffsetType (new)

Describes the type of the peg offset

Data type: integer

Name	Value	Comment
NONE	0	No peg offset for this order.
PERCENT	1	Peg offset is expressed as a percentage.

EmapiPriceConditionType (extended)

Different types of price conditions

Data type: integer

Name	Value	Comment
PEG_BEST_BID	3	For buy Dark orders. Pegs to bid side of NBBO.
PEG_BEST_OFFER	4	For sell Dark orders. Pegs to offer side of NBBO.

EmapiRoutingInstruction (new)

Defines the routing instruction for the order.

Data type: integer

Name	Value	Comment
ORDER_PROTECTION_ROUTING	1	Best price protection with any residual posted on Alpha. Default for TTM orders.
ROUTE_TO_ALPHA_DARK	2	Check for dark liquidity at Alpha first and route residual for best price protection.



Alpha IntraSpread™ Facility

Last Updated July 13, 2010

FIX Tags

New/Update	Tag	Value	Comment
New	PegDifference (211)	10, 20, 30, 40, 50, 60, 70, 80 or 90	<p>Percentage of NBBO spread. Only allowed if MaxFloor (111) = 0 (Dark order). Must be set if OrderType (40) = P (Pegged). Bid peg order is pegged to NBB + PegDifference. Ask peg order is pegged to NBO – PegDifference.</p> <p>Supported on: New Order – Single (35=D) Order Cancel/Replace Request (35=G) Execution Report (35=8)</p>
New	Price (44)		<p>For non-pegged orders represents the price of the order.</p> <p>For pegged orders, if included, represents the peg cap price.</p> <p>Supported on: New Order – Single (35=D) Order Cancel/Replace Request (35=G) Execution Report (35=8)</p>
New	SeekDarkLiquidity (7964)	Y = Yes N = No (Default)	<p>Specifies if the order will check for dark match (SDL™ order).</p> <p>Supported on: New Order – Single (35=D) Execution Report (35=8)</p>
Update	MaxFloor (111)		<p>If set to 0, indicates a Dark order.</p> <p>Else represents maximum quantity to be disclosed for an Iceberg Order. Must be a Round Lot multiple.</p> <p>Supported on: New Order – Single (35=D) Order Cancel/Replace Request (35=G) Execution Report (35=8)</p>
New	RoutingInstruction (7965)	OPR = Order Protection Routing (Default) RAD = Route to Alpha Dark	<p>Defines routing instruction for the order. Can only be set if HandlInst (21) = 4</p> <p>Supported on: New Order – Single (35=D) Order Cancel/Replace Request (35=G) Execution Report (35=8)</p>
Update	OrdType (40)	P = Pegged (new value)	<p>Supported on: New Order – Single (35=D) Order Cancel/Replace Request (35=G) Execution Report (35=8)</p>



Alpha IntraSpread™ Facility

Last Updated July 13, 2010

Summary of Field Mapping to Order Types

Order Type	Emapi Required Fields	FIX Required Fields
Dark	visibility = DARK (2) orderQty = multiple of boardlot priceCondition = PEG_BEST_BID (3) for buy or PEG_BEST_ASK (4) for sell or short/short exempt pegOffset = 10, 20, 30, 40, 50, 60, 70, 80, 90 pegOffsetType = PERCENT (1) price = valid price to add a peg cap, or NULL for no peg cap validTill = GOOD_TILL_DAY (6)	MaxFloor (111) = 0 OrderQty (38) = multiple of boardlot OrdType (40) = Pegged (P) PegDifference (211) = 10, 20, 30, 40, 50, 60, 70, 80, 90 Price (44) = valid price to add a peg cap TimeInForce (59) = Day (0)
Seek Dark Liquidity™ (SDL™)	orderQty = multiple of boardlot priceCondition = MARKET (1) or LIMIT (2) price = valid price, if limit seekDarkLiquidity = TRUE validTill = NEXT_MATCH (1)	OrderQty (38) = multiple of boardlot OrderType (40) = Market (10) or Limit (2) Price (44) = valid price, if limit SeekDarkLiquidity (7964) = Yes (Y) TimeInForce (59) = Fill Or Kill (3)
Route to Alpha Dark™ (RAD™)	ttmFlag = TRUE routingInstruction = ROUTE_TO_ALPHA_DARK (2)	HandInst (21) = Best Price (4) RoutingInstruction (7965) = Route to Alpha Dark (RAD)

Production Date

Alpha IntraSpread™ facility is included in the next major trading engine upgrade scheduled for release in November 2010.

For more information on Alpha IntraSpread™ facility please contact Alpha Trading Services at 647-259-0450 / 877 - ATS ALF1 or email clientservices@alphatradingsystems.ca