

Document title

## **IMPLIED CALCULATION ON EURONEXT DERIVATIVES MARKETS**

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Euronext

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## PREFACE

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### PURPOSE

The purpose of this document is to provide useful information on strategy implied, with a special focus on how third-parties applications can derive implied volume on Optiq based on the information provided.

### TARGET AUDIENCE

This document should be read by developers building market data applications for the Euronext Derivatives markets on the Optiq platform.

### WHAT'S NEW?

The following lists only the most recent modification made to this revision/version. For the Document History table, see the Appendix.

VERSION NO.	DATE	AUTHOR	CHANGE DESCRIPTION
1.0	17 Sep 2019	Euronext	First Version

### ASSOCIATED DOCUMENTS

The following lists the associated documents, which either should be read in conjunction with this document or which provide other relevant information for the user:

- Euronext Derivatives Markets – Optiq Kinematics Specifications V 1.0.1
- Euronext Markets – Optiq OEG Client Specifications – SBE Interface V 2.1.0
- Euronext Markets – Optiq OEG Client Specifications – FIX 5.0 Interface V 2.1.0
- Euronext Markets – Optiq MDG Client Specifications V 3.1.0
- Euronext Derivatives – How the Market Works V3.0

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## 1. MAIN PRINCIPLES OF OPTIQ IMPLIED MODELS

Two implied models will be available on the Optiq platform for the Euronext Derivatives markets:

1. The Event-Driven Implied Matching (EDIM) model
2. The Spontaneous Implied Matching (SIM) model

These two models replace the legacy model in place on UTP Derivatives with continuous calculation of Implied-In and Implied-Out prices. They aim to provide derivatives members with implied trading opportunities whilst saving internal CPU resources.

**Strategy Implied** and **Component Implied** have been introduced as a new naming convention in Optiq. These new concepts do not map exactly to the legacy Implied-In and Implied-Out. Sections below provide the main principles of the two available models and types of implied prices used.

In order to benefit from the best implied trading opportunities Clients are strongly encouraged to calculate the Strategy Implied, independent of the Implied model set at the Contract level.

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### 1.1 THE EVENT DRIVEN IMPLIED MATCHING (EDIM) MODEL

The **Event Driven Implied Matching (EDIM)** model gives the control to the market participants on the generation of Implieds – meaning, traders **request** Optiq to generate Implieds.

There is no Component Implied calculation in the EDIM model.

Only Strategy Implied is available, however not on a continuous basis but rather triggered by one of the following ‘events’ in a Strategy Book:

1. The submission of a new better priced order (i.e. priority order) leading to a revision of the BBO of the Strategy Book
2. A request to uncross the strategy and its legs using the “Request For Implied Execution’ facility.

On occurrence of one of these two events, the Strategy Book combines the prices of the orders on the strategy legs to build its own implieds with the corresponding volume.

Once generated, the Strategy order book executes an Uncrossing algorithm, and allocates volumes accordingly and generates trades, if any. Remaining volumes in Implieds do not rest in the book, and are not published in MDG.

For further details on the EDIM Model please refer to the *How The Market Works* and the *Optiq Derivatives Kinematics* documents.

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### 1.2 THE SPONTANEOUS IMPLIED MATCHING (SIM) MODEL

The **Spontaneous Implied Matching (SIM)** model calculates implieds on a continuous basis. Both Strategy Implied and Component Implied are generated in order to provide clients with exhaustive liquidity in all order books of the contract (Outright and Strategy).

The SIM model is hence not event driven but continuously calculates Implied. It is targeted to provide the best trading opportunities in less liquid contracts.

For further details on the SIM Model, please refer to the *How The Market Works* and the *Optiq Derivatives Kinematics* documents.

There are two major changes in behavior between the legacy UTP Implied model and The Spontaneous Implied Matching model:

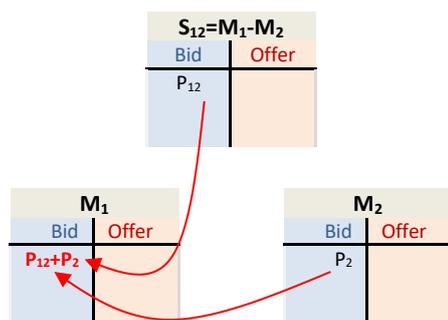
- 1- Strategy Implied on strategy books will be sent at BBO
- 2- Explicit and implicit quantities at BBO will be aggregated

The rest of the document below provides further information on those two technical impacts.

### 1.3 CONTINGENT IMPLIED PRICES

A **Component Implied** is a contingent order in an individual Outright order book derived from the combination of existing orders in a Strategy Book and existing orders in the other components of the strategy.

Example: Let us assume a spread  $S_{12}$  between  $M_1$  and  $M_2$



The Bid in  $S_{12}$  ( $P_{12}$ ) combined with the Bid in  $M_2$  ( $P_2$ ) will generate a Component Bid implied price in  $M_1$ :

$$P_1 = P_{12} + P_2$$

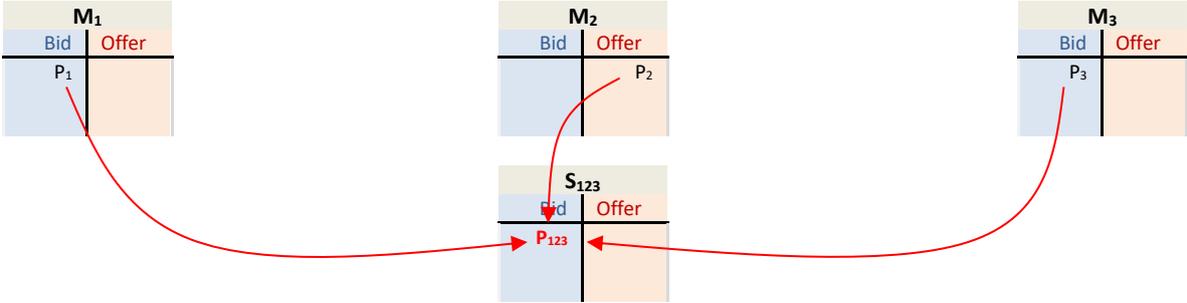
Component Implied are distributed over MDG but only when a Contract is set as using the SIM model. Component Implied are provided at BBO only (like on UTP Derivatives) however in Optiq, the implied and explicit volumes at BBO will be aggregated.

There is no mandatory Component Implied calculation required from clients as Component Implied are provided by Optiq when a Contract is set as using the SIM model. For Contracts set as using the EDIM model or for which no implied model is turned on, no Component Implied will be generated and sent over MDG.

### 1.4 STRATEGY IMPLIED PRICES

A **Strategy Implied** is a contingent order in a Strategy Book derived from the combination of existing orders in individual legs of a Strategy. For a Strategy only one Strategy Implied can be defined at a given price level.

Example : let us assume the following order book in instruments M1, M2 and M3 and the Butterfly S123.



The Butterfly Strategy Implied bid price is then:

$$P_{Butterfly} = P_{123} = P_1 - 2 \times P_2 + P_3$$

On Optiq Derivatives, Strategy Implied prices will be distributed over MDG but only when a Contract is set as using the SIM Model. For a Contract set as using the EDIM model, Strategy Implieds will be calculated but not sent over MDG. As a consequence, clients are still strongly encouraged to calculate Strategy Implied process for all contracts set as using either the SIM or EDIM model

For the EDIM model particularly, clients can “retrieve” volume from the outright which may result in more advantageous prices of execution. Let us consider a calendar strategy. If client is normally looking to trade the strategy of M1 – M2 at price X – and follows Market Update messages of individual outright books M1 and M2, which on their own do not communicate to each other. Follow-up of these prices through calculation of Strategy Implieds may identify that using RFIE message and triggering generation of implieds in Strategy S1 (M1 – M2) may give client a better price than X. Following execution from RFIE, all involved books, Strategy and Outright, will publish an execution summary, for the deepest in the book matched prices of the resting orders that participated in the trade.

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## 2. THE RULES TO DETERMINE THE IMPLIED VOLUME

**In Optiq all explicit and implied volume is aggregated for the BBO. Implied Bid and Offer Update Types will no longer be provided.**

Clients should therefore interpret this as:

- 1- Explicit and implied volume will only be provided at BBO, specifically in the Update Types **'1'** (Best Bid) and **'2'** (Best Offer).
- 2- The Update Types **'3'** (New Bid) and **'4'** (New Offer) will always include the explicit volume.
- 3- In the event is the BBO is an Implied BBO only, no 'New Bid' or 'New Offer' Market Updates will be sent.
- 4- The Update Types **'5'** (Updated Bid) and **'6'** (Updated Offer) will always include explicit volume. No implied volume will be included in those Limit Market Updates.

The key parameters to determine whether the BBO is either explicit only, implied only or composed of explicit and implied volume is the **NumberOfOrders field** provided in the MDG Market Update (1001) message. In addition to the rules above, clients must rely on the change of this value between two Market Updates messages to determine whether the change in BBO was generated by an update of the explicit or implied quantity.

### Note on Market Data publication:

Lot of processing actions within Optiq Derivatives are managed at Contract level. Quotes, Mass Cancel, individual orders for an instrument of the contract are managed at contract level and are all unitary actions. Unitary action are processed sequentially, synchronously and as a consequence, an order cannot cross a Mass Quotes being processed, neither a Mass Cancel at Contract level. *Please refer to the How The Market Works document chapter 4.10 for further explanation on unitary actions.*

Optiq, as soon as it processes a unitary event coming from an order entry Instruction or from a market event (e.g. Opening) disseminates the related updates of this event, once fully processed immediately in both Market Data and Order Entry.

Market Data reflects how the market works : when a Mass Quote is submitted, it is processed at contract level as a single event, book prices within the contract are updated accordingly, and once the full Mass Quote is processed, Market is updated on the public feed and submitter is updated on the private feed.

Market Update messages will hence contain updates for all the impacted order books, even if there is no trade. Multiple Instrument are impacted by the same Market event on the contract, and multiple symbol index are in the Market Update (1001) message, dealt with sequentially. Market Update message (1001) reflects exactly what was processed, instructed.

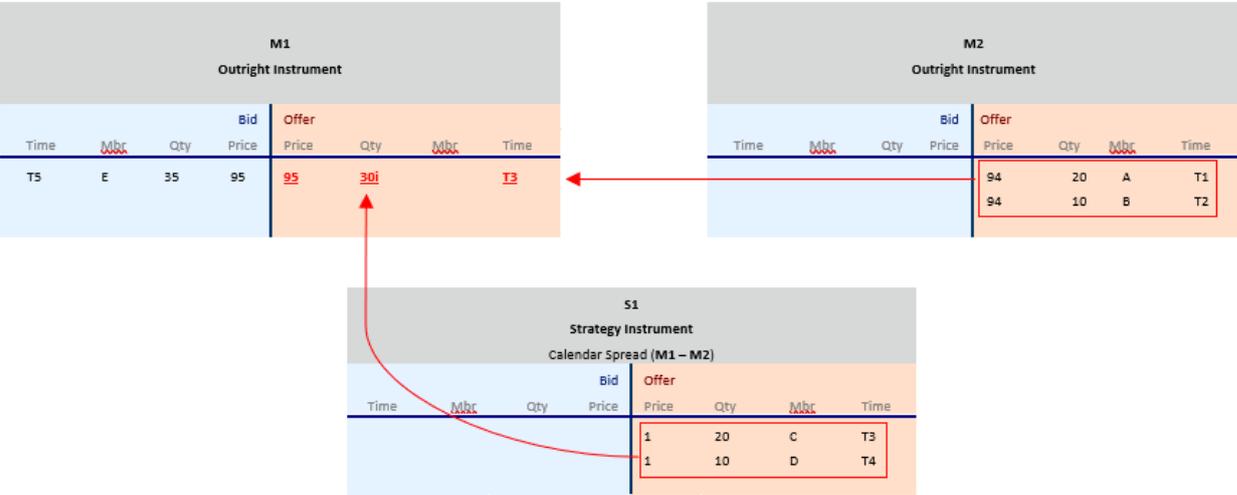
Whilst in most of cases, BBO updates and Full Depth updates will be part of the same message, if one single event (a big mass quote message) leads to more than 54 updates from a Market data perspective, max repeating groups of the message, multiple messages will be sent. As a consequence of this, there is no guarantee that Market Updates for a single order book will always be in the same message. Clients must therefore rely on the rules provided above to determine the potential implied volume of a BBO update.

**2.1 HOW TO DETERMINE THE IMPLIED VOLUME ON A COMPONENT IMPLIED PRICE**

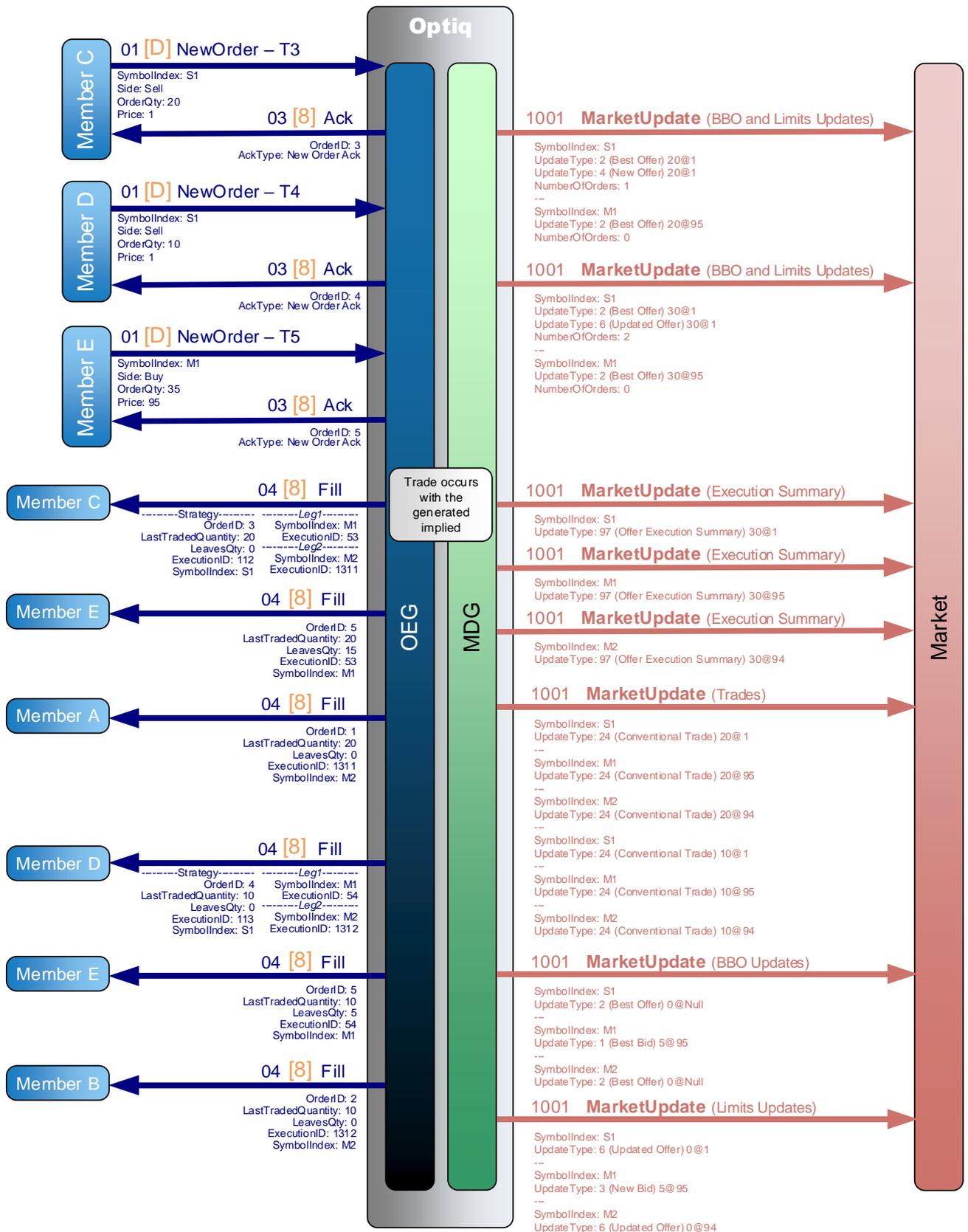
The example below is used to provide the rules on how to calculate the implied. We consider in this scenario that the SIM Model is activated for both the Outrights (i.e. M1 and M2) as well as the strategy S1 (note that when Implieds are activated for a Contract, they may be activated or deactivated for a specific strategy). This example outlines the generation of a Component implied price.

For readability purposes, the example only focuses on the public **Market Update (1001)** messages sent.

The order books in this example are represented in their final states just before the incoming explicit order of the Member E triggers trades.



Implied Calculation on Euronext Derivatives Markets



The kinematics above does not focus on orders sent at T1 and T2 in instrument M2 as these are explicit only orders. No Component implied can be generated at this stage.

At T3, Member C submits a new explicit Sell order for 20@ 1 in the strategy book S1.

Since the explicit order enters the order book without matching, public **MarketUpdate** (1001) message are sent for:

- The insertion of an Offer BBO (Update Type 2) for 20@1
- The insertion of an Offer Limit (Update Type 4) for 20@1
- From an explicit order, leading to NumberOfOrders = 1

This should result in the following order books

M1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty

M2							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				94	30	20	0

S1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				1	20	20	

The new explicit order automatically triggers generation of an Offer Component Implied in the order book M1 for 20@95, based on the state of order books S1 and M2 at that time.

The generated implied is published to the Market via public **MarketUpdate** (1001) messages for:

- The insertion of an Offer BBO in instrument M1 (Update Type 2) for 20@95
- From an implied order only, leading to NumberOfOrders = 0.

In that case, there is no insertion of the offer in the Full Depth.

This should result in the following order books

M1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				95	20		20

M2							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				94	30	20	0

S1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				1	20	20	

At T4, Member D submits a new Sell order for 10@1 in the strategy book S1. The explicit orders enter the order book without matching, public **MarketUpdate** (1001) messages are sent for:

- The update of the Offer BBO (Update Type 2) for 30@95
- The update of the Offer Limit (Update Type 5) for 30@95
- From an explicit order, leading to NumberOfOrders = 2

M1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				95	20		20

M2							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				94	30	20	0

S1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				1	30	30	

The new explicit order automatically triggers generation of a component Implied in the outright book M1, based on the state of order books S1 and M2 at that time. This results in an increase of the Offer Component implied volume by 10 (at the same price). The generated implied is published to the Market via public **MarketUpdate** (1001) messages for:

- The update of the Offer BBO in instrument M1 (Update Type 2) for 30@95
- From an implied order only, leading to NumberOfOrders = 0

In that case, there is no insertion of the offer in the Full Depth.

This should result in the following order books

M1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				95	30		30

M2							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				94	30	20	0

S1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				1	30	30	

At T5, Member E submits a Buy order for 35@95 in instrument M1. The new explicit Buy Order from Member E partially matches the Implied Offer (identified in the book diagram by underlined T3) for 30@95. Explicit orders submitted by Member A, Member B, Member C and Member D will be fully executed.

Public **MarketUpdate** (1001) messages for Execution Summary are sent to the market for the Strategy S1 and for each Outright (M1 and M2).

Following this, public **MarketUpdate** (1001) messages (Conventional Trade) are sent to the market for the trade in the Strategy S1 and the trades for each Outright (M1 and M2).

Following this, public **MarketUpdate** (1001) messages are sent to update the BBO and the Limits for the Strategy S1 and for each Outright (M1 and M2). Note that BBO updates will be sent first before the Limits for the strategy and for each outright. The messages will include:

- The removal of the Offer BBO in Strategy S1 (Update Type 2) 0@NULL

- The update of the Bid BBO in instrument M1 (Update Type 1) for 5@95 - As this is an explicit BBO only, NumberOfOrders = 1
- The removal of the Offer BBO in instrument M2 (Update Type 2) 0@NULL
- The removal of the Offer Limit in Strategy S1 (Update Type 4) 0@NULL
- The update of the BBO Limit in instrument M1 (Update Type 3) for 5@95
- The removal of the Offer Limit in instrument M2 (Update Type 4) 0@NULL

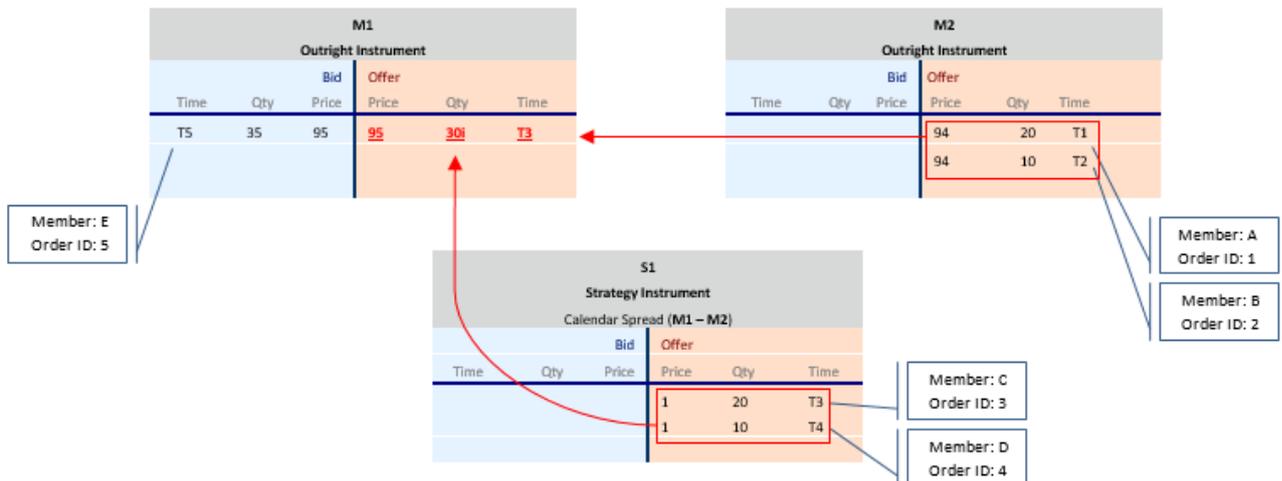
Resulting in the following order books

M1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
	5	5	95				

M2							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty

S1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty

For further clarity on the kinematics, below is the situation if an explicit Offer order was submitted at T5 (i.e. before the incoming Bid order in instrument M1 that would match the Component implied) for 10 at the same price as the Implied order:



Public **MarketUpdate** (1001) messages would be sent for:

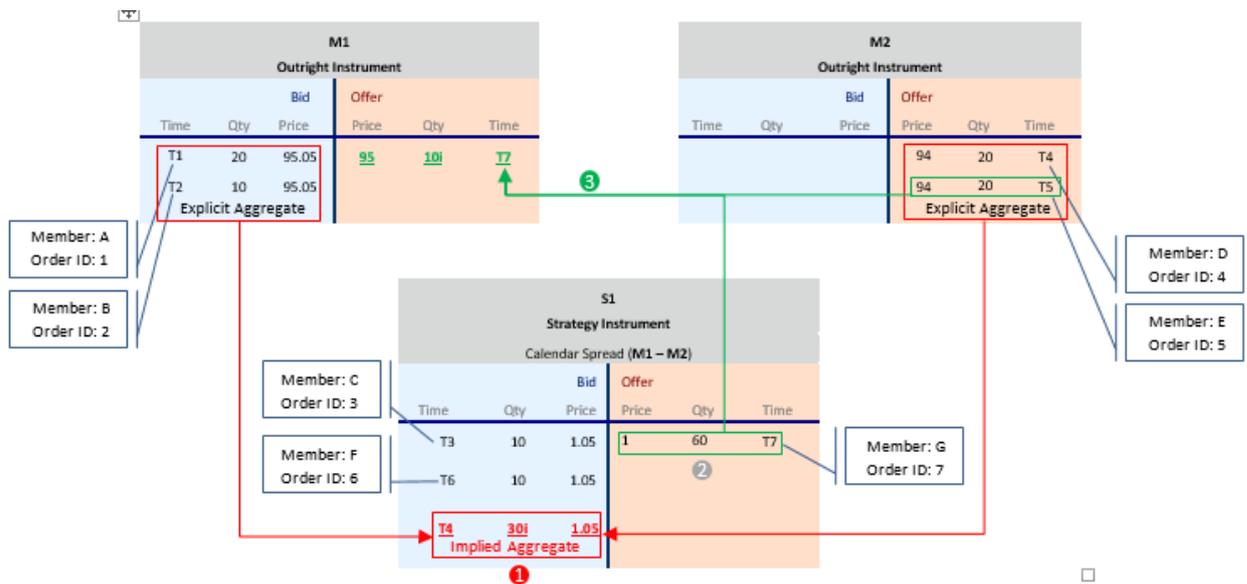
- The update of the Offer BBO (Update Type 2) for 40@95 therefore aggregating the implied and explicit volumes
- The update of the Offer Limit (Update Type 4) for 10@95, meaning that the update of the limit results from a new explicit order
- NumberOfOrders will be set to 1, meaning that the update of the limit results from a new explicit order.

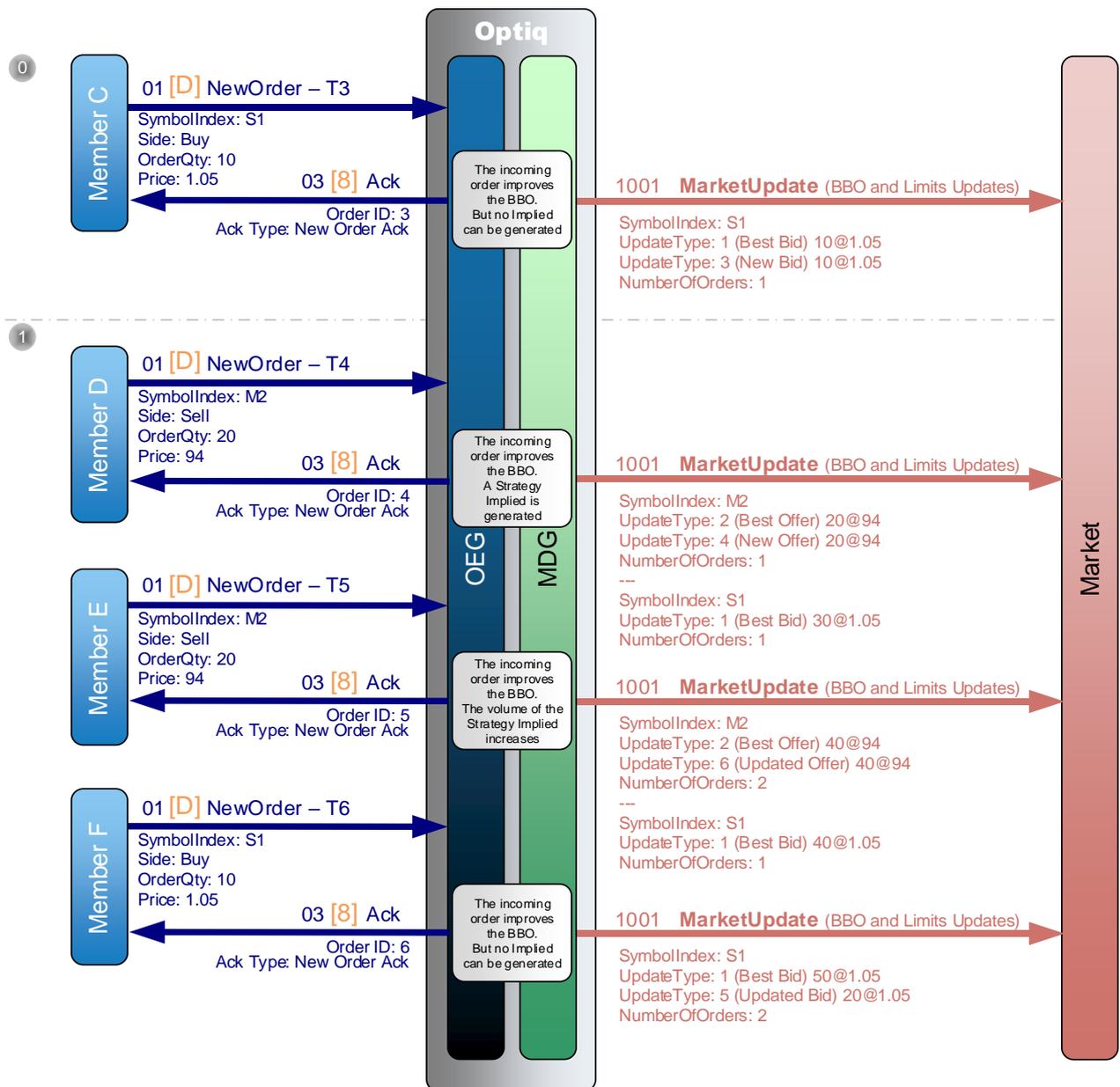
## 2.2 HOW TO DETERMINE THE IMPLIED VOLUME ON A STRATEGY IMPLIED PRICE

The second example focuses on the sequence of messages that would be sent as a result of a Strategy Implied matching versus an explicit order on a strategy book when the contract is set for the Spontaneous Implied Matching model. The aim of this example is to explain further the sequence of Market Updates being sent for Strategy Implieds (but that would apply to Component Implieds as well). At the end of this example, a Component Implied will be generated.

For readability purposes, the example only focuses on the public **Market Update (1001)** messages sent.

The order books in this example are represented in their final states until the generation of the Component Implied. Strategy Implieds are displayed in red in the diagram, Component Implieds in green.





The kinematics above does not focus on orders sent at T1 and T2 in M2 as these are explicit only orders. No Component or Strategy implied can be generated at this stage.

At T3, Member C submits a Buy order with for 10@1.05 in the strategy book S1.

Because it improves the BBO, the new explicit order automatically triggers the calculation of Implieds. At this stage, no implied can be generated.

Since the explicit order enters the order book without matching, public **MarketUpdate** (1001) message are sent for:

- The insertion of a Bid BBO in Strategy S1 (Update Type 1) for 10@1.05
- The insertion of a Bid Limit (Update Type 3) for 10@1.05
- From an explicit order, leading to NumberOfOrders = 1

This results in the following order books

M1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
	30	30	95.05				

M2							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty

S1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
	10	10	1.05				

At T4, Member D submits a new Sell order for 20@94 in the Outright book M2.

The explicit orders enter the order book without matching, public **MarketUpdate** (1001) messages are sent for:

- The insertion of an Offer BBO in instrument M2 (Update Type 2) for 20@94
- The insertion of an Offer Limit (Update Type 4) for 20@94
- From an explicit order, leading to NumberOfOrders = 1

This results in the following order books

M1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
	30	30	95.05				

M2							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				94	20	20	

S1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
	10	10	1.05				

The new explicit order automatically triggers generation of a Strategy Implied in the book S1, based on the state of order books M1 and M2 at that time. The generated Implied is at the BBO in the strategy book S1, and thus creates a volume of 20 at the price of 1.05.

Public **MarketUpdate** (1001) messages are sent in order to materialize the increase of volume due to the generation of the implied in the strategy book S1, i.e.

- The update of the Bid BBO in Strategy S1 (Update Type 1) for 30@1.05 aggregating the explicit volume with the new implied volume
- Since there is one explicit order within the Bid side of the strategy book, NumberOfOrders is set to 1, despite the presence of the Bid strategy Implied

No update of the Full Depth is sent as the update of the BBO was generated from an implied.

This results on the following order books:

Implied Calculation on Euronext Derivatives Markets

M1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
	30	30	95.05				

M2							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				94	20	20	

S1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
20	10	30	1.05				

At T5, Member E submits a new Sell order for 20@94 in the Outright book M2.

The explicit orders enter the order book without matching, public **MarketUpdate** (1001) messages are sent for:

- The update of the Offer BBO in instrument M2 (Update Type 2) for 40@94
- The update of the Offer Limit (Update Type 5) for 40@94
- From an explicit order, leading to NumberOfOrders being incremented to 2.

This results in the following order books:

M1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
	30	30	95.05				

M2							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
				94	40	40	

S1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
20	10	30	1.05				

The new explicit order which improved the BBO automatically triggers generation of a new strategy Implied in the book S1, based on the state of order books M1 and M2 at that time. The generated Implied is at the BBO in the strategy book S1, and thus creates an additional volume of 10 at the price of 1.05.

Public **MarketUpdate** (1001) messages are sent in order to materialize the increase of volume due to the generation of the implied in the strategy book S1, i.e.

- The update of the Bid BBO in Strategy S1 (Update Type 1) for 40@1.05 aggregating the explicit volume of 10 with the new implied volume
- Since there is only one explicit order within the Bid side of the strategy book, NumberOfOrders remains to 1, despite the presence of the Bid strategy Implied

No update of the Full Depth is sent as the update of the BBO was generated from an implied.

This results in the following order books:

Implied Calculation on Euronext Derivatives Markets

M1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
	30	30	95.05				

M2							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
					94	40	40

S1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
30	10	40	1.05				

At T6, Member F submits a new Buy order for 10@1.05 in the strategy book S1.

Because it improves the BBO, the new explicit order automatically triggers the calculation of Implied. However, no new Implied can be generated.

Since the explicit order enters the order book without matching, public **MarketUpdate** (1001) message are sent for:

- The update of the Bid BBO in Strategy S1 (Update Type 1) for 50@1.05 i.e. aggregating the implied volume with the update of the explicit volume
- The update of the Bid Limit (Update Type 5) for 20@1.05
- From a new explicit order, i.e. NumberOfOrders is incremented to 2

This results in the following order books:

M1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
	30	30	95.05				

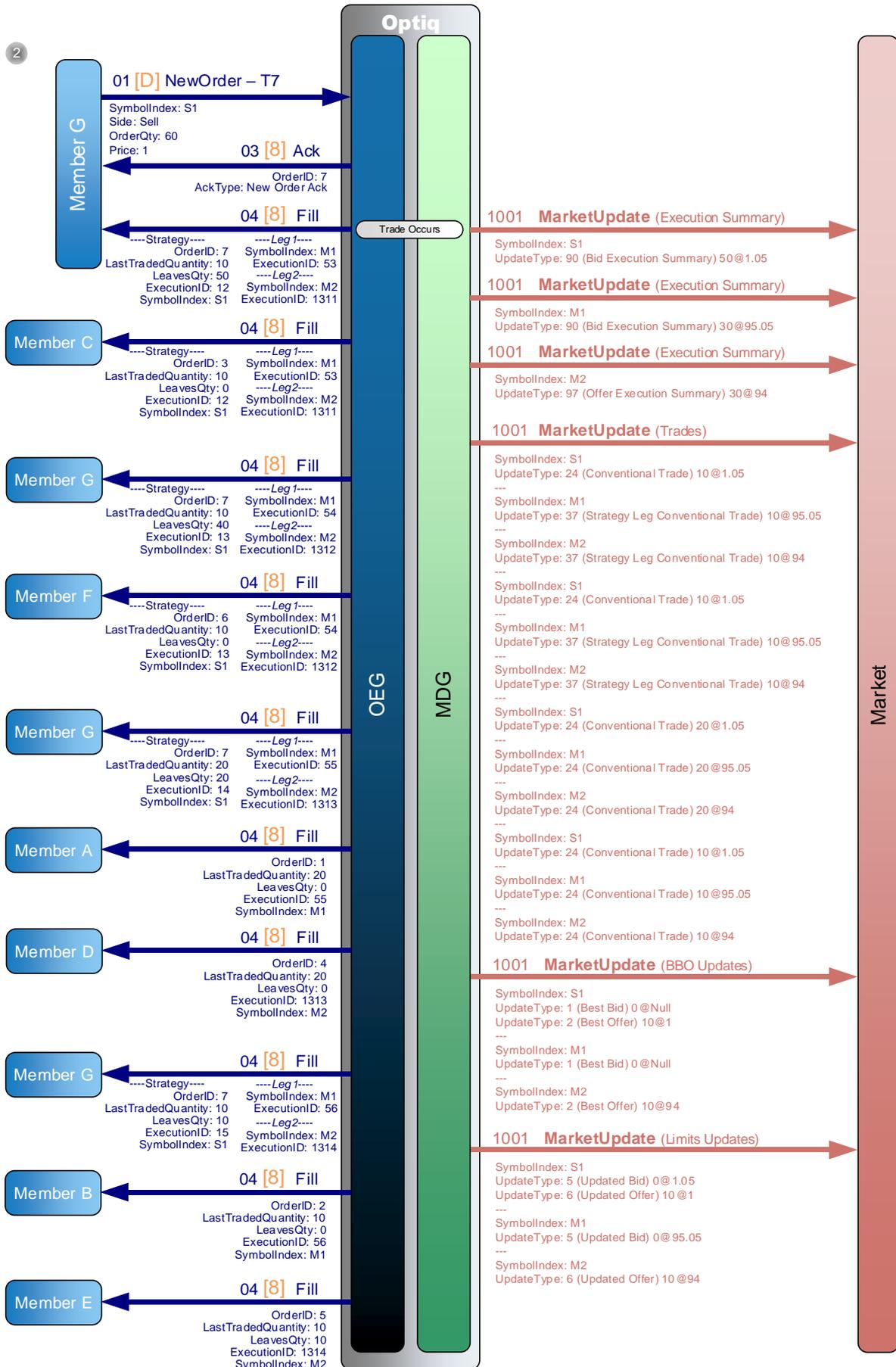
M2							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
					94	40	40

S1							
Implied Qty	Explicit Qty	Qty	Price	Price	Qty	Explicit Qty	Implied Qty
30	20	50	1.05				

At T7, Member G submits a new Sell order for 60@1 in the strategy book S1.

Because it improves the BBO, the new explicit order automatically triggers the calculation of Implieds and will create an Offer Component in instrument M1 based on the state of the books of M1 and S1 at this stage.

Sending of private and public messages for the execution are represented as follows:



### 3. THE RULES TO CALCULATE THE STRATEGY IMPLIED

Despite Strategy Implied prices will be sent to the market if the Contract is set for the SIM model, no Strategy Implied will be published for the EDIM model as they will not be calculated on a continuous basis.

Calculating Strategy Implied prices on the member side therefore represent the opportunity to detect trading opportunities.

The primary rule to calculate a Strategy Implied is the following one: **only explicit volume from the strategy legs should be used to imply a price in a strategy** (meaning that implied prices are not revolving).

Once explicit volume is known, the method then to calculate the Strategy Implied remains unchanged, i.e. the Strategy Implied should be calculated from the Bid and Offer prices of the component legs using the strategy definition.

Example of a Spread Implied calculation with explicit prices:

1. A new Best Bid is generated in Outright A of 10@320 with NumberOfOrders equal to 1. This means that the BBO is explicit only.

Outright A									
Implied Qty	Explicit Qty	#Orders	Qty	Price	Price	Qty	#orders	Explicit Qty	Implied Qty
0	10	1	10	320					

2. A new Best Offer is created in Outright B of 15@220 with NumberOfOrders equal to 1. This means that the BBO is explicit only.

Outright B									
Implied Qty	Explicit Qty	#Orders	Qty	Price	Price	Qty	#orders	Explicit Qty	Implied Qty
					220	15	1	15	0

This generates the following Strategy Implied on A-B spread

A-B									
Implied Qty	Explicit Qty	#Orders	Qty	Price	Price	Qty	#orders	Explicit Qty	Implied Qty
			<b>10</b>	<b>100</b>					

3. A updated Best Bid is generated in Outright A of 20@320 with NumberOfOrders equal to 1. This means that there is a Bid implied quantity of 10 in Outright A but the explicit quantity remains unchanged.

Outright A									
Implied Qty	Explicit Qty	#Orders	Qty	Price	Price	Qty	#orders	Explicit Qty	Implied Qty
<b>10</b>	<b>10</b>	1	20	320					

4. A updated Best Offer is generated in Outright B of 25@220 with NumberOfOrders equal to 1. This means that there is an Offer implied quantity of 10 in Outright B but the explicit quantity remains unchanged.

Outright B									
Implied Qty	Explicit Qty	#Orders	Qty	Price	Price	Qty	#orders	Explicit Qty	Implied Qty
					220	25	1	<b>15</b>	<b>10</b>

5. The Strategy Implied on A-B spread remains the same:

A-B									
Implied Qty	Explicit Qty	#Orders	Qty	Price	Price	Qty	#orders	Explicit Qty	Implied Qty
			10	100					

Example of a Spread Implied calculation with implied prices only:

Let us assume the following order book on Outright A and Outright B

Outright A									
Implied Qty	Explicit Qty	#Orders	Qty	Price	Price	Qty	#orders	Explicit Qty	Implied Qty
15	0	0	15	320					

Outright B									
Implied Qty	Explicit Qty	#Orders	Qty	Price	Price	Qty	#orders	Explicit Qty	Implied Qty
					220	10	1	10	0

As there is no explicit quantity on Outright A, no Strategy Implied can be calculated on A-B spread.

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## APPENDIX A: DOCUMENT HISTORY

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### REVIEW LOG

<b>DOCUMENT NAME</b>	Implied Calculation on Euronext Derivatives Markets
<b>PROJECT NAME</b>	
<b>LOCATION</b>	
<b>REVISION VERSION</b>	1.0