Pre-trade information and the advantages of consolidated data

This White Paper is part of a series of Equiduct Trading sponsored research papers that aim to increase awareness of the impact of MiFID and to assist the financial community in the practical implementation of MiFID.

The opinions and views expressed in this White Paper are the personal opinions and views of the author and do necessarily represent those of Equiduct Trading.

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About Equiduct Trading

Equiduct Trading will offer a MiFID compliant, integrated pan-European single point of connectivity for trading services through the Regulated Market operated by Börse Berlin.

Equiduct Trading will offer a range of services to enable financial institutions to meet their statutory commitments to provide best execution and transparency to their clients for all equity instruments listed on the European Economic Area (EEA) regulated markets (RM), in a single point of contact and cost effective manner. Equiduct Trading will also eliminate the need for financial institutions to become 'Systematic Internalisers' (SI).

Equiduct Trading's "Best Execution" and trade reporting services drastically reduce the cost and time required for participant firms to achieve MiFID compliance in these areas, while simultaneously enabling MiFID related revenue streams and market penetration. Additionally, Equiduct Trading offers very low cost per transaction relative to other exchanges as well as unique settlement flexibility and guaranteed execution in a protected environment. Retail investors will benefit from Equiduct Trading's transparent environment and will receive the guaranteed best price and very low transaction cost.

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1 Introduction: The importance of consolidated pre-trade information - isn't it obvious?

MiFID will impact many aspects of the trading process, and one which is critical to traders is that of pre-trade information management. The ability to manage such information directly affects a firm's ability to perform their obligations for execution performance under MiFID.

This White Paper thinks about the possible environment for pre-trade information under MiFID and issues related to the consolidation or lack of consolidation of pre-trade data in the post-MiFID environment. Following on, this paper considers several related issues that firms must be aware of and ways in which firms might manage their trading and market data environment to ensure MiFID compliance.

Some European member states have been used to a regulated environment for pre-trade information consolidation. This has usually taken the form of concentration rules which drive trades to the primary exchange. Under MiFID this forced concentration will no longer exist. In other markets where concentration has not been mandated, fragmentation has occurred and market participants already have an awareness of the issues of managing fragmented information. However relatively few comprehensive solutions have appeared which can resolve the problem effectively for most market participants. Consequently firms trading in regions with high fragmentation mostly attempt to manage multiple information sources simply to the best of their ability. In these regions the fragmentation of pre-trade information has usually been related to large block trades rather than smaller retail size trades.

An apparent intention of MiFID is to encourage competition in the pre-trade information space. In order to do this, monopolies of pre-trade information will be removed. Consequently following the implementation of MiFID, there is likely to be an increased fragmentation of pre-trade information which firms will have to be aware of and manage effectively. Hopefully in the long term this environment for increased competition will lead to cost advantages. It is also possible that the multiple information sources may subsequently be drawn together at least as efficiently as before, through the application of new technology platforms and solutions.

So, for many firms it already seems obvious that consolidated pre-trade information is desirable. However this paper will explore the subject in a little more detail and identify some less than obvious side issues and practical considerations for firms, regulators and other interested parties.

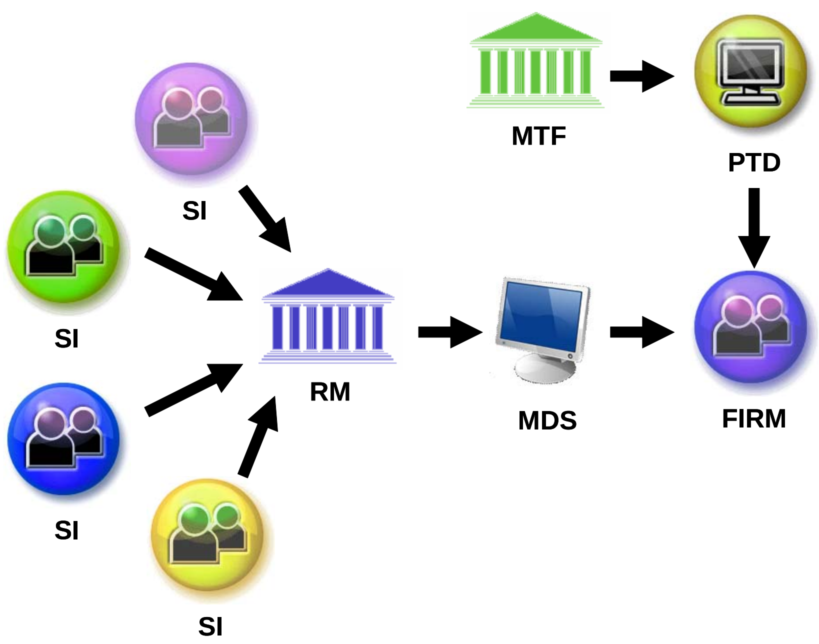
2 Pre-trade information consolidation and firms' MiFID execution obligations

In the previous Equiduct sponsored White Paper "MiFID Equity Best Execution: Key Requirements Explained" which discussed the management of execution under MiFID, an important concept was introduced, which is particularly relevant to this paper. This was the concept of frames of reference for available pre-trade information. This concept simply identifies that many firms are likely to have a unique collection of suppliers of pre-trade information. The aggregated set of this data will often be unique to that firm, simply because the set of business relationships is also likely to be unique.

Under MiFID, the firm has to consider this unique set of pre-trade information in the performance of their execution obligations. Obviously the ability to aggregate such information efficiently will be a significant advantage for a firm. Conversely the inability to consolidate such information may well expose the firm to risks in the successful achievement of the best possible result for a client's execution.

Most firms are used to pre-trade information being consolidated via either a market data system (MDS), a Regulated Market (RM) or a combination of the two. Many firms today have a reasonably consolidated view of pre-trade information. The increased competition that is permitted under MiFID may well change this landscape for many firms, and so introduce complications in the management of pre-trade information in the future. While competition may be good for the marketplace, increased fragmentation would certainly also be a challenge for many firms.

So for many firms the present landscape for their pre-trade information is really fairly simple and could well look something like this:



SI - Systematic Internalisers / market makers / other market traders
RM - Regulated Market

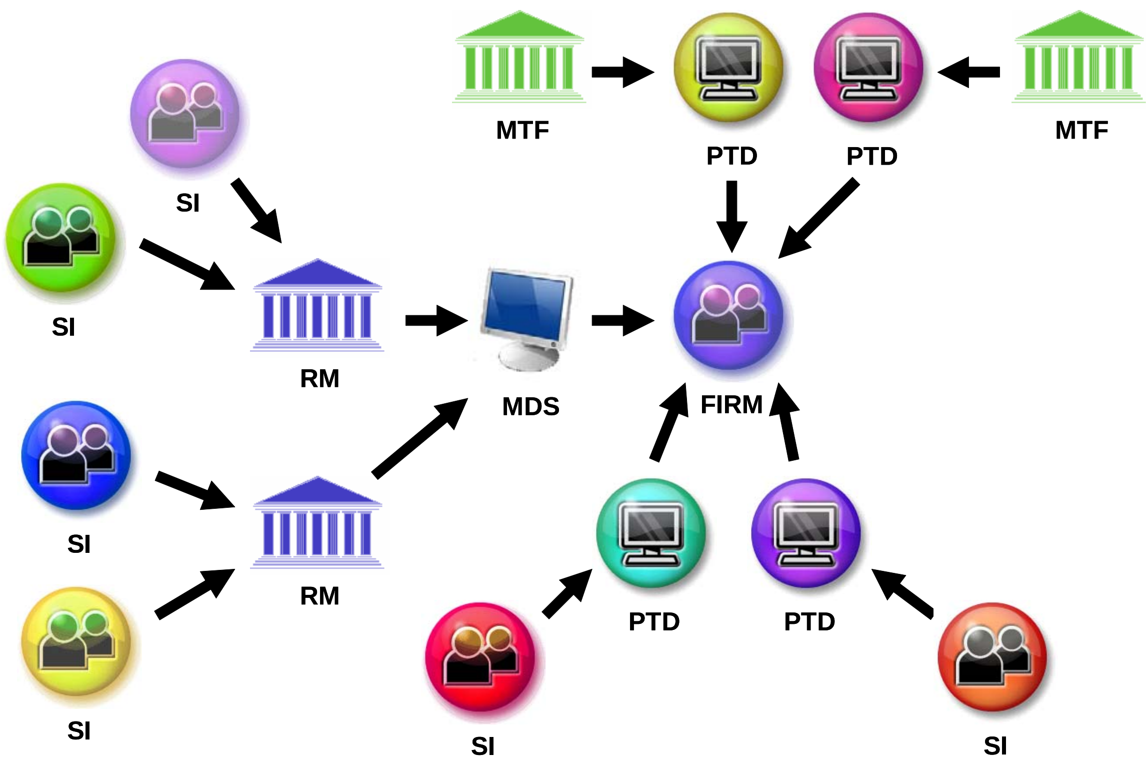
MDS - market data system (3rd party, proprietary or sometimes a combination of both)
FIRM - a firm that has responsibility for providing the best possible execution result to their client
MTF - Multilateral Trading Facility (often referred to as alternative trading system)
PTD - standalone pre-trade data source

If the firm has access to MTFs or alternative trading systems, these systems are currently likely to be for block trading and very often the pre-trade information will be handled outside of the firm's normal market data system. Even under MiFID the lack of consolidation of block trading information may be less of a priority or concern than the consolidation of smaller order information.

There are a number of potential new areas of competition which may change this pre-trade information environment for a firm following the implementation of MiFID. These may include:

- The emergence of new regulated markets.
- Increased numbers of firms with more than one secondary market listing.
- Increased numbers of MTF (some of which may be executing and forming prices for small order sizes).
- The existence of multiple SI (who are not obligated to use identical information distribution systems).

If a firm were to find that their execution venues or other executing counterparties / entities took advantage of these competitive opportunities, it is quite possible that this firm's sources of pre-trade information may change significantly under MiFID to resemble the following:



If we make the assumption that these new data sources are relevant to the firm's trading requirements and view of pre-trade information, then clearly the firm has to find a solution for managing this.

There are many ways in which this might occur, although one or more of the following methods would probably be the most efficient:

- Construction of a proprietary custom interface or system to amalgamate all of the pre-trade data. (This may have advantages in that the firm might be able to additionally include data relating to ancillary execution costs.)
- A third party vendor or market data system may create a data consolidation tool for clients.
- The firm may choose to restrict their trading to certain execution venues or trading entities based upon information delivery mechanisms. (This is perfectly permissible under MiFID obligations if the firm regards the management of multiple data sources as introducing unreasonable cost.)
- New trading models may emerge which would find innovative new ways to consolidate the pre-trade data.

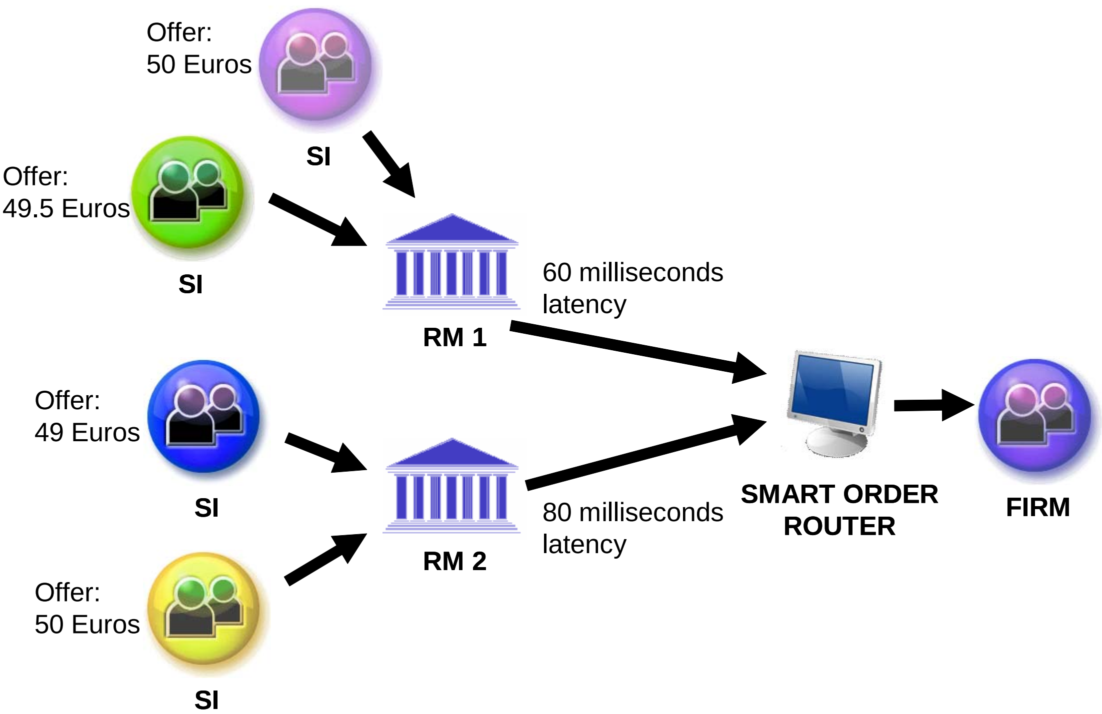
Fundamentally a firm has two main approaches as to how they handle a more complex and more fragmented pre-trade information environment. They can either find a way to consolidate such information, or they can restrict access to trading entities and venues such that the information is limited to a small number of information delivery mechanisms. Doing so may be undesirable from the point of view of superior execution; however it may be highly desirable from the perspective of implementation or running costs.

3 Are price consolidation and trade consolidation the same?

One of the examples described above was where a firm mostly depends upon a market data system / vendor or some other information consolidating mechanism as a robust single source of their pre-trade information. This is a very normal practice and superficially appears to resolve many of the questions and requirements relating to the management of pre-trade information. Certainly the consolidation of information appears to have been achieved.

When one considers this in more detail and in the context of MiFID, there are some other issues which firms should at least be aware of, if not actively manage or have a policy for. The consolidation of external information is extremely useful but this does not necessarily mean that the information that has been consolidated is equally accessible.

Largely this relates to the fact that a firm may not be able to execute against individual prices that have been consolidated, with the same degree of effectiveness. A simple example of this which relates to systems latency is as follows:



In this example, a firm has access to two RMs containing two different price sets. The firm may rely upon some system or tool such as a smart order router to access the multiple sources of pre-trade information, and orders. However in this example where RM2 has a greater latency than RM1, latency plays an important role. MiFID requires firms to consider execution factors such as speed in their execution policies, therefore the difference in latency may be a relevant factor for the firm. In an automated trading environment, systems latency bears a very close relationship to speed of execution, and this in turn has a direct connection with MiFID's obligations for achieving the best possible result for a client execution.

If the firm in this example has assessed that the additional 20 ms latency would make a material difference to the outcome for the execution of their clients' orders, then this should be taken into consideration in the execution policy and their choice of execution pathway. The key point here is that although the smart order router aggregates the pre-trade information, it does not necessarily mean that all prices (or the best available price) are effectively and equivalently accessible by the client.

This also has a relationship to certain order types. For example, consider a situation where the firm sends an "at market" order through the smart order router. If this was in response to the appearance of a new offer at €49, and another competing trader with lower latency than this firm sends a similar order, then the other trader will execute and this firm will miss the opportunity. Obviously this is a less than successful result for the firm in that latency may have been the key factor in not achieving the execution price of €49. In the event that the firm now wishes to execute at €49.5, the overall latency of the order has been increased significantly.

This situation highlights that firms should consider the use of "at market" orders very carefully where latency has a material impact upon the firm's execution capability, and there are multiple price sources with high variation in latency.

4 Ancillary execution costs

Another aspect worth consideration in the consolidation of pre-trade information is that of ancillary costs of execution. As has been described above, firms are usually familiar with price and trading volume information being consolidated in one place. MiFID also considers other costs related to execution as likely important factors in the achievement of the best possible result for a client order. Consequently the ability to additionally include ancillary costs within the consolidated stream of pre-trade information would be highly advantageous for firms. The lack of this information would be an added complication for a firm and potentially introduces significant business risk.

On the other hand there might also an opportunity for consolidating systems to structure ancillary costs in a way whereby they are equivalent for all situations. So, for example if all costs were the same for one particular pre-trade information mechanism or execution venue, then within that system no additional comparison would be required. This would be a major benefit to a user of that execution venue or entity. In most current trading environments where there is a high degree of concentration this is in fact quite normal already. But as has been mentioned previously the future environment is likely to become much more fragmented, with a far greater probability of variation in execution costs, and this will require consideration.

5 Who will be most impacted most by poor pre-trade information consolidation?

Many institutional dealers have quite correctly observed that MiFID describes achievement of the best possible result for a client execution as a process. The creation and following of a defined execution process is by far the most important aspect of execution management for orders that are "large in scale". This is mostly because larger orders will not have publicly available comparable prices for equivalent execution opportunities.

This is not the case however for smaller orders. In the case of retail client orders MiFID is especially prescriptive in that the best overall result should be the best net cost for the client. In the case of smaller orders for professional clients, the net price does not have to be the single overriding factor. However the execution policy process must include price as one of the determining factors of performance. This indicates that comparison of available pre-trade prices should naturally form part of the execution policy for all smaller orders.

In the context of trading undertaken by large professional clients, there will of course be a significant proportion of trading which is executed as orders which are "large in scale". For these orders where there will very rarely be comparative prices for trading opportunities, the consolidation of pre-trade information is a minor issue.

However a significant and increasing proportion of professional client trading is now undertaken through algorithmic and electronic trading mechanisms which tend to fragment larger orders into many smaller orders. These smaller orders are far more likely to have multiple comparison prices which would be accessible through pre-trade information sources.

This also means that firms should consider pre-trade information management in the context of using technical trading tools such as algorithms.

6 The connection between market quality and the consolidation of pre-trade information

Some of the public debate around the changes that MiFID will introduce in pre-trade information has questioned whether those changes will worsen market quality. Concern has been voiced that fragmentation of pre-trade information will not only introduce a need to reintegrate such information for many firms, but also that this will complicate and worsen access to liquidity. Additionally there is concern that this possibility of fragmentation may in fact worsen the general quality of market prices, due to firms' inability to efficiently access and respond to highly fragmented orders and prices.

In addition to the possibility that decentralised liquidity becomes a problem, there may be other areas of impact. One that may be worth mentioning in the context of market quality is the efficiency of the price formation process, and a possible connection with short and long-term asset price volatility.

There are a small number of studies which look at the relationship between price volatility and market structure. Some of this evidence indicates that concentration of the knowledge of liquidity supply and demand has an impact on asset volatility both in the short and the long term.[1]

Ultimately, only time will tell as to whether market quality is going to improve or worsen across the various member states following the introduction of MiFID.

[1] For a short analysis of the relationship between concentration of market information (in the context of broad access order driven markets vs. narrow access quote driven markets) and market quality / price volatility, see "The Equity Trader Course", R Schwartz, Published 16 June 2006, Wiley and Sons, ISBN 0471741558.

7 Multi currency trading

An interesting side issue that is worth some minor consideration in the context of consolidating pre-trade information is that of multi currency trading.

Increased access to European markets and a greater ability to compete across regional member states may create stronger commercial advantages in the area of secondary market listings. Where a firm has a multiple listing within the European region, there is a possibility that these listings will be in multiple currencies. If this were to be the case, it would be advantageous for a single currency consolidation mechanism to emerge in the marketplace. It would be possible for a firm to overlay a foreign-exchange process for themselves. However the additional stages of performing a foreign-exchange calculation, and executing a foreign exchange transaction after a market order would introduce some extra degree of latency and possibility of a change in the foreign exchange price.

An intention of MiFID is to strengthen Europe's attraction to investors outside of the region. If we were to see a need for multicurrency consolidation or handling, it would be just as easy to manage non-Europe in currencies as well. The availability of a price in the local currency of a non-European investor may be highly attractive.

8 Conclusions and Key Issues

It will hardly surprise readers that an obvious conclusion of this White Paper is that more consolidated price data is better than less consolidated price data. Irrespective of this, the underlying reasons why the consolidation of pre-trade price data is important are not necessarily very obvious from the point of view of MiFID specific requirements. The bad news is that the entire area of pre-trade price consolidation is likely to remain a complex one for the foreseeable future. But the good news is that the likely environment for pre-trade price information following November 1st will be one that fosters many competitive new products and solutions.

As was described in the previous Equiduct Best Execution White Paper, a critical aspect of firms' compliance is in their management of frames of reference for assessing execution performance. The relationship between pre-trade price consolidation and a firm's management of their execution capability and suppliers is therefore a close one.

The consolidation of pre-trade price data generally has a positive effect upon the consolidation of liquidity, and vice-versa. Many regulators and market structures have held the long-standing belief that reduced competition is an acceptable sacrifice to make for the sake of increased pre-trade information consolidation. MiFID however indicates that there should be an alternative and viable equilibrium between competitive forces, data consolidation, and open access to pre-trade information. As a result, markets in Europe that have previously had concentration rules will be losing these after first of November. In other regions such as the USA, centralisation of pre-trade information through the NBBO is also a given, but questions are increasingly being asked about the reduced competition such an environment fosters.

The ability to consolidate pre-trade price information into a virtual order book also does not necessarily provide a complete solution to a firm's requirements for pre-trade transparency. If the ability to execute against components of that virtual book differs between orders, then this can generate its own issues. For example systems latency and turnaround time for the pre-trade information and orders is a factor which will require consideration.

MiFID clearly recognizes that speed (which will closely relate to systems latency) is likely to be a factor in a firm's achievement of the best overall result for their clients' execution performance. As such, the construction of virtual order books containing orders that are assessed not only on price or size but also on the latency or turnaround introduces an additional level of complexity.

From a trading risk viewpoint, this also has further downstream impacts that are worth considering. For example, the use of "at market" orders could introduce an additional level of operational risk where latency is higher for certain execution venues or entities.

The construction of smart order routing tools is one potential solution to such an issue. However, the ability to execute any given order on an external system can never be absolutely guaranteed when latency (no matter how small) is a factor in execution success.

Many of these issues may seem somewhat academic from a trader's viewpoint. However in the context of, for example, algorithmic trading the ability to execute small fragments around RMS and SMS size in an efficient manner, at the best price with extremely low latency and fast response times is in fact critical. The certainty with which such orders can be executed is also very important, and variations in latency will impact these performance results.

One other interesting issue which is still relatively little understood is the relationship between centralisation of pre-trade price information and both short and long term asset price volatility. We can consider the centralisation of pre-trade information as bearing a close relationship with the degree of knowledge of supply and demand within any given market structure. Intuition alone tells us so. However there is presently little analysis or hard evidence to definitively prove that the concentration of pre-trade information improves market quality (in terms of reduced price volatility). Fortunately though, this is an area which is being increasingly studied.

Without question, one more conclusion of this report is that further investigation into latency and its impact upon execution performance would be valuable.

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