

# LMAX Exchange API FAQs

May 2016



## Disclaimer

LMAX Exchange has taken reasonable efforts to ensure that the information contained in this publication is correct at the time of going to press, but shall not be liable for decisions made in reliance on it. LMAX Exchange will endeavour to provide notice to customers of changes being made to this document, but this notice cannot be guaranteed. Therefore, please note that this publication may be updated at any time. The information contained is therefore for guidance only.

## April 2016

This document contains a list of FAQs for the purpose of assisting customers with their development work during the on-boarding process. If you have any questions please get in touch by emailing the LMAX Exchange Technical Account Management team using [tam@lmax.com](mailto:tam@lmax.com)

# CONTENT

<b>GENERAL FAQ INFO.....</b>	<b>3</b>
<b>API (.NET/JAVA) FAQ INFO .....</b>	<b>7</b>
<b>FIX FAQ INFO.....</b>	<b>13</b>

## General FAQ Info

**What are the main differences between LMAX FIX and the LMAX API's (.Net/Java)?**

Feature	.NET/JAVA APIs	FIX API
Order history		X
Account and Position Events	X	
Supports Cancel on Disconnect		X
Offers Good Session Management		X
Offers Multiple Unique Logons to the same Trading Account		X
Offers Multiple Logons to the Same Trading Account	X	
Supports Contingent Orders	X	

**What order types does LMAX Exchange offer?**

Order Type	Web UI	FIX	JAVA/.NET	LMAX Prime
Market IOC	X	X	X	X
Market FOK		X	X	X
Limit IOC		X	X	X
Limit FOK		X	X	X
Limit GTC	X	X	X	
Limit GFD	X	X	X	
Stop GTC	X	X	X	
Stop GFD	X	X	X	
Stop Limit GTC		X		
Stop Limit GFD		X		
Take Profit	X		X	
Stop Loss	X		X	

## How do I connect to the LMAX Exchange Demo environment?

LMAX Exchange Demo Web GUI: <https://web-order.london-demo.lmax.com>

### LMAX FIX Demo Market Data:

DNS: fix-marketdata.london-demo.lmax.com

TargetCompld: LMXBDM

Port: 443

### LMAX FIX Demo Trading:

DNS: fix-order.london-demo.lmax.com

TargetCompld: LMXBD

Port: 443

The FIX logon will need to include your LMAX Exchange username in FIX tags 49 and 553.

## Do I need to use encryption when connecting to both the LMAX Live or LMAX Demo environments?

Yes, SSL encryption is required. LMAX Exchange will drop the TCP connection attempt if encryption is not used or setup correctly. Note you will need to send a message within 5 seconds of establishing the TCP connection, otherwise we will disconnect you.

## Do you have an example of a stunnel configuration? (Please note a customer may need to adapt this example to meet their purposes).

fips = yes

[Demo-Trading]

client = yes

accept = 127.0.0.1:40001

connect = fix-order.london-demo.lmax.com:443

sslVersion = TLSv1

options = NO\_SSLv2

options = NO\_SSLv3

[Demo – Market Data]

client = yes

accept = 127.0.0.1:40003

connect = fix-marketdata.london-demo.lmax.com:443

sslVersion = TLSv1

options = NO\_SSLv2

options = NO\_SSLv3

Please note that SSLv3 has been decommissioned for security reasons, so you must use TLSv1 or higher.

LMAX Limited operates a multilateral trading facility. LMAX Limited is authorised and regulated by the Financial Conduct Authority (firm registration number 509778) and is a company registered in England and Wales (number 6505809). Our registered address is Yellow Building, 1A Nicholas Road, London, W11 4AN.

## **Does LMAX Exchange offer last look?**

LMAX Exchange does not offer last look. The price you see is an actual firm price that can be executed.

Our liquidity providers do not have the ability to refuse a trade request as is done on many ECNs. In order to protect our liquidity, LMAX Exchange actively manages the type of order flow.

## **Does the LMAX Exchange Demo market data stream reflect that of the Live environment?**

The LMAX Exchange Demo platform does reflect the pricing and trading in the LMAX Production environment. It is a functional testing environment and should therefore be treated in that manner.

Samples are taken from the LMAX Exchange Live top of book prices at "x" second intervals and some market depth is synthesised based on these LMAX Live top of book prices.

Customer orders submitted to LMAX Demo are reflected in the Demo Market Data feed as well as the prices submitted by the synthesised pricing as mention above.

## **What is the maximum position size for FX pairs on LMAX Exchange?**

The maximum position size differs for each instrument. This information, as well as information on other instrument parameters can be found by clicking the 'i' button next to the instrument when using the LMAX Exchange Web GUI.

## **What do Tick Size, Tick Value and Contract Size mean?**

Tick Size defines the granularity of the price of each product.

e.g. the tick size for EUR/USD on LMAX Exchange is 0.00001, which means the price of EUR/USD can be up to 5dp Any smaller increments will be rejected as invalid prices.

Contract Size (lot size) defines the notional value of each contract on LMAX Exchange.

The quantities received on the market data feed and sent on the order-entry feed are stated in number of contracts. 1 LMAX contract is 10,000 notional currency for FX pairs. The minimum position size is 0.1 which, is 1,000 notional currency.

Tick Value (Tick Size x Contract Size) allows you to calculate your P&L based on the difference between the tick difference of the opening and closing prices of a trade.

## **What is the maximum frequency of price updates available on LMAX Exchange?**

Customers that are cross-connected to LMAX Exchange in either LD4 (London) or TY3 (Tokyo) will be able to receive up to 1000 messages per second per instrument, which is 1 message per millisecond.

LMAX Exchange currently publishes on the "millisecond end" and publishes the current order book state (millisecond time pulse).

When LMAX Exchange Live accounts are created the default frequency is 10 updates per second per instrument. We aim to tailor a customer's setup depending on where their servers are located around the world and factoring in the available bandwidth. Please contact [tam@lmax.com](mailto:tam@lmax.com) to discuss your requirements.

## **Does LMAX Exchange disconnect open connections over the weekend?**

We perform new releases or maintenance on our systems on most weekends so FIX sessions will often be terminated. There may, however, be some weekends where connectivity will remain up throughout.

## **Does LMAX Exchange have problems with arbitrage strategies?**

LMAX Exchange does not allow arbitrage strategies onto the exchange.

## **Why was my Market FOK order spread over multiple fills?**

Market Orders will always be fully filled at the best available prices.

You may receive one or more fills (multiple execution reports) for your fully filled Market FOK order.

## **What is the difference between Germany 30 & Germany 30 (Mini) and US SPX 500 & US SPX 500 (Mini)?**

The Mini instruments have smaller contract sizes and thus require smaller margins.

The contract size is 2.5 EUR per point for Germany 30 and 1 EUR per point for Germany (Mini).

US SPX 500 has a contract size of 25 USD per point and US SPX 500 (Mini) has a contract size of 10 USD per point

# API (.NET/Java) FAQ Info

## How far back in time does your historical market data go?

The LMAX Exchange historical market data starts from October 2010 in the LMAX Live environment. The LMAX Demo environment includes a few months worth of historical data.

## How do you access LMAX Exchange historical market data using the API?

In addition to subscribing to real-time market data, the API provides a mechanism for retrieving historic market data.

Two types of historic market data are supported:

- TopOfBookHistoricMarketDataRequest - Best bid & ask tick data.
- AggregateHistoricMarketDataRequest - Aggregated price & volume data by day or minute.

The data is delivered as a gzip-compressed CSV file.

The following steps are required to receive historic market data:

1. Implement and register a historic market data delegate
2. Subscribe to historic market data events
3. Make historic market data requests
4. Retrieve URLs within an authenticated session

The code snippets below are extracted from the class `HistoricMarketDataRequester` in the API samples.

### 1) Implement and register a historic market data delegate

To receive historic market data, you must first implement a delegate matching the signature of `LmaxApi.OnHistoricMarketDataEvent` and register the delegate with the session:

```
// Implement the delegate
private void OnHistoricMarketData(string instructionId, List uris)
{
    // do something with the URLs... see number 4 for a sample implementation
}

// Register the delegate
_session.HistoricMarketDataReceived += OnHistoricMarketData;
```

## 2) Subscribe to historic market data events

Use the standard `_session.Subscribe()` mechanism to subscribe to historic market data requests:

```
_session.Subscribe(new HistoricMarketDataSubscriptionRequest(),
    () => Console.WriteLine("Successful subscription"),
    failureResponse => Console.Error.WriteLine("Failed to subscribe: {0}", failureResponse));
```

As with other subscriptions, you can `Subscribe` before you call `_session.Start()`.

## 3) Make historic market data requests

To request historic market data for a specific instrument and date range, create an instance of `TopOfBookHistoricMarketDataRequest` or `AggregateHistoricMarketDataRequest` and call the `requestHistoricMarketData` method on the session:

```
_session.RequestHistoricMarketData(new AggregateHistoricMarketDataRequest(instructionId,
instrumentId,
                                DateTime.Parse("2011-05-11"),
                                DateTime.Parse("2011-06-13"),
                                Resolution.Day, Format.Csv,
                                Option.Bid),
    () => Console.WriteLine("Successful request"),
    failureResponse => Console.Error.WriteLine("Failed request: {0}",
failureResponse));
```

## 4) Retrieve URLs within an authenticated session

When the data is ready, the delegate you registered in step 15.1 will receive an asynchronous message with a list of URLs. The asynchronous message also includes the `instructionId` you included with the request.

The URLs must be retrieved using an authenticated connection. You can use the session's `OpenUri()` method to open each URL. The files at the URLs are compressed with `gzip`. The code snippet below shows how to retrieve the URL and print out the uncompressed data:

```
private void OnHistoricMarketData(string instructionId, List uris)
{
    foreach (var uri in uris)
    {
        _session.OpenUri(uri, OnUriResponse, FailureCallback("open uri"));
    }
}

private static void OnUriResponse(Uri uri, BinaryReader reader)
{
    using (var stream = new GZipStream(reader.BaseStream, CompressionMode.Decompress))
```

LMAX Limited operates a multilateral trading facility. LMAX Limited is authorised and regulated by the Financial Conduct Authority (firm registration number 509778) and is a company registered in England and Wales (number 6505809). Our registered address is Yellow Building, 1A Nicholas Road, London, W11 4AN.

```

{
    const int size = 1024;
    var buffer = new byte[size];
    var numBytes = stream.Read(buffer, 0, size);
    while (numBytes > 0)
    {
        Console.WriteLine(Encoding.UTF8.GetString(buffer, 0, numBytes));
        numBytes = stream.Read(buffer, 0, size);
    }
}
}
}

```

## Some examples from .NET and JAVA Historical Market Data Download

**Open Price** – the first price in the Aggregation Interval

**High Price** – the highest price in the Aggregation Interval

**Low Price** – the lowest price in the Aggregation Interval

**Close Price** – the last price in the Aggregation Interval

**Up Volume** – The total volume offered on Up Ticks (see below for defn) during the Aggregation Interval

**Down Volume** – The total volume offered on Down Ticks (see below for defn) during the Aggregation Interval.

**Unchanged Volume** – The total volume offered on Unchanged Ticks (see below for defn) during the Aggregation Interval

**Up Ticks** – the number of ticks on the side of the OrderBook being aggregated where the price went up during the Aggregation Interval

**Down Ticks** – the number of ticks of the price on the side of the OrderBook being aggregated where the price went down during the Aggregation Interval

**Unchanged Ticks** – the number of ticks of the price on the side of the OrderBook being aggregated where the price was unchanged but the volume offered at that price changed during the Aggregation Interval

## **Why is there a discrepancy between LMAX Exchange live market data updates seen via FIX and the downloadable historical data using the API?**

The difference is due to throttling that is applied to a customer's account/username. The historical data files always include every single top of book tick (not limited to the 1000 updates per second per instrument).

Even with an unthrottled FIX or API feed that will provide up to a maximum of 1000 updates per second (1 message per m/s), there is no guarantee that the data will match what you see in the historical data files as these files will always include every top of book tick.

## **How can I request a list of all my working orders & positions in the market via API?**

When you log into the API you automatically receive a list of all your working orders and positions. You will need to make a *PositionSubscriptionRequest* and register a *PositionEventListener* in order to receive updates on your net (current open) positions, in addition to the individual orders.

## **How do I receive my current balance, equity and free margin via API?**

You can receive those details by requesting the instruction "Account State" via .NET API, where you can receive the following details about your account state:

- \_balance;
- \_availableFunds;
- \_availableToWithdraw;
- \_unrealisedProfitAndLoss;
- \_margin;
- \_walletByCurrency;

You would need to setup a listener in order to give the .NET API an instruction to follow after receiving this information.

## **How do I know the current exposure in the market? (Open Positions)**

In order to know this, it is necessary to create an instruction on the API to calculate this. Currently, LMAX Exchange does not send this information as it is. It can only be accessed through the Web UI.

## **Can CancelOrder raise an InstructionReject error (similar to PlaceMarketOrder & PlaceLimitOrder) or does the verification end on Success and Failure Callbacks?**

Yes, CancelOrder can raise an InstructionReject.

Our API is asynchronous and the call to the callback "onSuccess" only means that the instructions have reached the LMAX Exchange gateways and they have been able to parse it. This does not mean that the order has been executed.

Upon successful execution, LMAX Exchange will send an event (for example an OrderStateEvent) and customers should listen and manage these events. If the instruction is rejected, you will receive an InstructionReject event. You need to have a listener to these events and react as convenient.

## **How do I get the swap for each instrument from the .NET API?**

1. Retrieve security definitions to get a List<Instrument> (as per section 14 "Retrieve Security Definitions" of the Tutorial)
2. For the chosen instrument, get the commercial agreements using the instrument.Commercial getter
3. Get the long and short swap rates from the CommercialInfo object

## **How do I close a position via API?**

You can do this by constructing a "ClosingOrderSpecification".

This allows you to place a market order in the opposite direction of an existing position, which closes out a given quantity.

To close a specific position you will need to specify the instruction ID (originalInstructionId) of the order that you would like to close.

To close all positions in an instrument you will need to specify the id of this instrument.

## **How can I get my profit and loss per day via API?**

You will need to create an instruction on the API to calculate this yourself. You can receive your unrealised profit and loss by requesting the instruction "AccountStateEvent".

## What are the meanings of the fields returned in a PositionEvent and an AccountStateEvent?

### PositionEvent:

valuation - the impact of this position on the overall valuation of the account (i.e. unrealised P&L - margin required for this position) in instrument currency. This is only updated when the position size changes and not in response to changes in market price.

shortUnfilledCost - the total notional value of working orders to sell contracts in the position instrument, in instrument currency

longUnfilledCost - the total notional value of working orders to buy contracts in the position instrument, in instrument currency

cumulativeCost - the total notional value of all trades in the position instrument, signed (sells are negative), in instrument currency

openCost - the notional value of the open position for mark-to-market purposes, signed (short positions are negative), in instrument currency. For positions combined purely from opening orders this is equal to cumulativeCost. As closing orders are applied to the position these values diverge reflecting the profit or loss realised on the closing orders

### AccountStateEvent:

availableToWithdraw - current valuation in account currency of the amount of the total account balance which can be withdrawn. This will vary in response to changes in market exposure.

unrealisedProfitAndLoss - current valuation in account currency of the profit or loss that would be realised if all positions were instantaneously liquidated at the best price in the market.

margin - current margin requirement for all open positions and working orders in account currency.

## FIX FAQ Info

**What version of FIX does LMAX Exchange use on the non-market maker side, also known as the LMAX Professional/Broker side?**

FIX4.4

(Please note the LMAX Exchange market-maker side uses FIX4.2)

**What order types does LMAX Exchange provide via FIX4.4?**

*Market:*

Immediate or Cancel (IOC) & Fill or Kill (FOK)

*Limit:*

Good for Day (trading session), Good till Cancel, IOC & FOK

*Stop:*

Good for Day (trading session), Good till Cancel

*Stop Limit:*

Day (trading session), Good till Cancel

**I am able to connect on the TCP level but my FIX messages are not being sent from QuickFIX to LMAX, could you please assist?**

We have found that this issue is specific to QuickFIXJ users. You can fix this by adjust your QuickFIXJ configuration.

If `SocketUseSSL=Y` in your QuickFIXJ config, do not use stunnel because in this case QuickFIXJ will try to do the TLS encryption itself. In this case you should connect to `fix-marketdata.london-demo.lmax.com:443` or `fix-order.london-demo.lmax.com`

If you are using stunnel, adjust your configuration to `SocketUseSSL=N` and connect to `localhost:40003` (or whatever port is specified in your stunnel config)

Here is a working config snippet:

```
SocketConnectHost=fix-marketdata.london-demo.lmax.com
SocketConnectPort=443
#SocketConnectPort=4003
#SocketConnectHost=127.0.0.1
SocketUseSSL=Y
```

## Can I get information about my balance and positions via FIX?

This information is not available via LMAX FIX.

In the Demo environment you can view balance and positions using the LMAX Exchange Demo Web GUI – <https://web-order.london-demo.lmax.com>.

Alternatively, you could write a small piece of code using the LMAX .NET or Java API to request this information. If required please send an email to [tam@lmax.com](mailto:tam@lmax.com) to request the LMAX API documentation and specify whether you prefer Java or .NET.

## When sending a FIX OrderCancelReplaceRequest (35=G), is Tag 38 (OrderQty) the remaining (unfilled) quantity of the order or the original quantity?

FIX Tag 38 can be either of these. The remaining quantity will be cancelled regardless of what quantity you populate this FIX Tag with.

## If an instrument is suspended, do you send indicative rates?

We do not send out indicative rates. If an instrument is suspended, the market data stream would stop. We allow our Liquidity Providers (Market Makers) to cancel their orders during a suspension so it is possible to receive Market Data updates to reflect the removal of liquidity e.g. 35=W with NoMDEntires 268=0.

Once the instrument is re-opened the market data stream will start up again. If an order is sent, an execution report with reject INSTRUMENT\_SUSPENSION will be sent in response.

## Can you provide some examples of common Session Level Reject messages (35=3)?

A session level reject message will be sent in response to a message which is structurally invalid. Tag 373 identifies the reason for a session level reject; below are some common values that are contained in this tag:

- 0 = Invalid tag number – *the client is sending a tag that is not supported on LMAX FIX 4.4*
- 1 = Required tag missing – *a mandatory tag is missing from the client's FIX message*
- 2 = Tag not defined for this message type – *the client is sending a tag that is not specified in our FIX Specification for this particular message type*
- 3 = Undefined Tag – *the client is sending a tag that is not supported on LMAX FIX 4.4*
- 4 = Tag specified without a value – *there is no value for a given fix tag (e.g. 48=)*
- 9 = CompID problem – *the client is sending an incorrect TargetCompID*
- 11 = Invalid MsgType – *LMAX FIX 4.4 does not support the MsgType being sent by the client*

LMAX Limited operates a multilateral trading facility. LMAX Limited is authorised and regulated by the Financial Conduct Authority (firm registration number 509778) and is a company registered in England and Wales (number 6505809). Our registered address is Yellow Building, 1A Nicholas Road, London, W11 4AN.

**I am having trouble sending a TradeCaptureReportRequest message, can you provide an example?**

Ensure you have set Tag 580 (NoDates) = 2 and populated Tag 60 (TransactTime) twice as this is a repeating group. TransactTime corresponds to start (first entry in repeating group) and end (second entry in repeating group) timestamp of the period for which trades should be retrieved expressed in UTC.

See the below example:

```
8=FIX.4.4|9=146|35=AD|34=3349|49=xxx|52=20150220-
10:50:04.148|56=LMXBL|263=0|568=390041488433|569=1|580=2|60=20150220-
08:50:04.148|60=20150220-10:50:04.148|10=081|
```

**What are some standard LMAX Exchange FIX rejection reasons?**

Rejection	Reason
INSTRUMENT_DOES_NOT_EXIST	Instrument ID is not valid
INSTRUMENT_NOT_OPEN	Instrument is not currently open
PRICE_NOT_VALID	Invalid price specified on order: higher than maximum price; lower than minimum price; too many decimal places; not a valid price increment
QUANTITY_NOT_VALID	Invalid quantity specified on order: less than minimum order quantity; too many decimal places; not a valid quantity increment
EXPOSURE_CHECK_FAILURE	Account does not have sufficient trading resources to support the order
DUPLICATE_ORDER	Duplicate ClOrdID
UNKNOWN_ORDER	Unknown ClOrdID when cancelling or replacing an order
INVALID_MARKET_DEPTH	Market data request for more than 20 levels or an invalid value
INVALID_UPDATE_TYPE	Market data request with invalid MDUpdateType
INSTRUMENT_SUSPENDED	Instrument has been suspended
TEMPORARY_SUSPENSION	Automated suspension that happens when the order book is untrusted – see below for reasons why the order book may go untrusted

OUTSIDE_ALLOWED_PRICE_RANGE	Price is outside our volatility band parameters, i.e. more than x% away from the best price
MAXIMUM_POSITION_EXCEEDED	Accepting order would potentially lead to position limits being exceeded
ACCOUNT_IN_LIQUIDATION	Account is being liquidated and cannot accept new orders

**Under what conditions would an order book become untrusted and the market temporarily suspended?**

A temporary suspension occurs when the order book is untrusted. There are 4 ways an order book can be untrusted:

- No market maker prices on the book
- Market maker prices on only one side of the book
- Excessively wide prices from market makers (i.e. if prices go wider than our trusted spread parameters)
- Excessively inverted prices

**What are some standard LMAX Exchange FIX messages?**

**Trading**

***Logon***

```
8=FIX.4.4|9=104|35=A|49=xxx|56=LMXBL|34=1|52=20150215-22:01:05|98=0|108=30|141=Y|553=xxx|554=#####|10=005|
```

```
8=FIX.4.4|9=72|35=A|49=LMXBL|56=xxx|34=1|52=20150215-22:01:05.495|98=0|108=30|141=Y|10=065|
```

***New Order***

```
8=FIX.4.4|9=128|35=D|49=xxx|56=LMXBL|34=2028|52=20150213-15:05:14|11=54897|18=H|22=8|38=1000|40=1|48=4001|54=1|59=0|60=20150213-15:05:14.084|10=166|
```

### **Execution Report**

8=FIX.4.4|9=215|35=8|49=LMXBL|56=xxx|34=2091|52=20150213-  
 15:05:14.077|1=1820613222|11=54897|48=4001|22=8|54=1|37=AAGJHQAAAAJwThP5|59=3|40=1|60=  
 20150213-  
 15:05:14.077|6=0|17=bIRaZgAAAALC2TsW|527=0|39=0|150=0|14=0|151=1000|38=1000|10=220|

### **OrderCancelRequest**

8=FIX.4.4|9=157|35=F|49=xxx|56=LMXBL|34=320814|52=20150220-09:15:03.524|41=1424379907-  
 310727|11=1424379907-310733|48=100889|22=8|54=1|60=20150220-09:15:03.524|38=10|10=150|

### **OrderCancelReplaceRequest**

8=FIX.4.4|9=183|35=G|34=169077|49=xxx|52=20150220-  
 09:14:42.661|56=LMXBL|11=Feb20026604DAX1|18=Q|22=8|38=50|40=2|41=  
 Feb20026604DAX1|44=10986.3|48=100097|54=1|59=0|60=20150220-09:14:42.660|10=018|

### **OrderStatusRequest**

8=FIX.4.4|9=85|35=H|49=xxx|56=LMXBL|34=2|52=20150220-  
 10:17:54.279|11=57080.5|48=100637|22=8|54=2|10=141|

### **TradeCaptureReportRequest**

8=FIX.4.4|9=146|35=AD|34=3349|49=xxx|52=20150220-  
 10:50:04.148|56=LMXBL|263=0|568=390041488433|569=1|580=2|60=20150220-  
 08:50:04.148|60=20150220-10:50:04.148|10=081|

### **Heartbeating**

8=FIX.4.4|9=57|35=0|49=LMXBL|56=xxx|34=2105|52=20150213-15:05:44.079|10=137|

8=FIX.4.4|9=53|35=0|49=xxx|56=LMXBL|34=2029|52=20150213-15:05:44|10=188|

## **Market Data**

### ***Logon***

8=FIX.4.4|9=104|35=A|49=xxx|56=LMXB LM|34=1|52=20150215-  
22:01:05|98=0|108=30|141=Y|553=xxx|554=#####|10=005|

8=FIX.4.4|9=72|35=A|49=LMXB LM|56=xxx|34=1|52=20150215-  
22:01:05.495|98=0|108=30|141=Y|10=065|

### ***Market Data Request – Single Instrument***

8=FIX.4.4|9=131|35=V|34=5866|49=xxx|52=20151117-  
21:59:56.707|56=LMXB LM|262=100800|263=2|264=0|265=0|146=1|48=100800|22=8|267=2|269=0|269  
=1|10=203|

### ***Market Data Request – Multiple Instruments***

8=FIX.4.4|9=1150|35=V|34=2|49=xxx|52=20141211-08:55:54|56=LMXB LM|262=20141211-  
08\_55\_54|263=1|264=1|265=0|267=2|269=0|269=1|146=71|48=4001|22=8|48=4008|22=8|48=4007|22=  
8|48=4009|22=8|48=4016|22=8|48=4015|22=8|48=4011|22=8|48=4003|22=8|48=4006|22=8|48=4001|22=  
=8|48=4017|22=8|48=4014|22=8|48=4012|22=8|48=4005|22=8|48=4002|22=8|48=4013|22=8|48=4010|2  
2=8|48=4004|22=8|48=100479|22=8|48=100481|22=8|48=100483|22=8|48=100485|22=8|48=100487|22  
=8|48=100489|22=8|48=100491|22=8|48=100493|22=8|48=100495|22=8|48=100497|22=8|48=100499|2  
2=8|48=100501|22=8|48=100503|22=8|48=100505|22=8|48=100507|22=8|48=100509|22=8|48=100511|  
22=8|48=100513|22=8|48=100515|22=8|48=100517|22=8|48=100519|22=8|48=100521|22=8|48=10052  
3|22=8|48=100525|22=8|48=100527|22=8|48=100529|22=8|48=100531|22=8|48=100533|22=8|48=1005  
35|22=8|48=100537|22=8|48=100539|22=8|48=100541|22=8|48=100543|22=8|48=100545|22=8|48=100  
547|22=8|48=100613|22=8|48=100615|22=8|48=100617|22=8|48=100619|22=8|48=100667|22=8|48=10  
0671|22=8|48=100669|22=8|48=100673|22=8|48=100675|22=8|48=100093|22=8|48=100677|22=8|48=1  
00637|22=8|48=100639|22=8|48=100097|22=8|48=100806|22=8|48=100807|22=8|48=100679|22=8|48=  
100681|22=8|10=094|

### ***Market Data Update***

8=FIX.4.4|9=181|35=W|49=LMXB LM|56=xxx|34=2|52=20141211-08:55:53.459|262=20141211-  
08\_55\_54|48=100097|22=8|268=2|269=0|270=9855.2|271=20|272=20141211|273=08:55:53.261|269=1|  
270=9856.7|271=30|10=033|