

J.P.Morgan

JPMC FX FIX Specification

Version : 1.13.40

Date: 11 March 2016

Prepared by:

JPMorgan FX eTrading

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DOCUMENT REVISION HISTORY

VERSION	DATE	AMENDMENTS
0.1	16 October 2006	Initial version distributed for comments.
1.0	2 July 2007	Baseline version.
1.1	8 July 2007	Include LastShares tag in execution report.
1.2	31 July 2007	Change conditions under which the LastPx tag are included
1.10	5 December 2007	Changed version number to be in sync with API release version. Added MDEntrySize to Market Data Request message.
1.11	2 June 2008	Added support for RFS for SPOT, SWAP and OUTRIGHTS and streaming forward points
1.12	23 July 2008	Added VWAP pricing formula
1.12.1	14 Aug 2008	Adding a new field for RFQ Orders
1.12.2	08-September 2008	Adding Details for Allocations
1.12.9	31-Oct-08	Add details for Market Orders
1.12.11	27 January 2009	Updates to RFS specification
1.12.12	3 March 2009	MDEntryTime and custom tag ValueDate added to MarketDataIncrementalRefresh
1.12.13	28 April 2009	Remove Security Definitions section. Add FixingDate field to QuoteRequest, NewOrderSingle, and ExecutionReport messages.
1.13.10	26 February 2010	Added SettlementInstruction to NewOrderSingle
1.13.14	19 July 2010	Added TraderIdentifier field on NewOrderSingle Added ClRefRequestId field on NewOrderSingle
1.13.15	24 Aug 2010	Change Execution Report field ExecID definition
1.13.16	18 October 2010	Add details for requesting TradingSessionStatus updates.
1.13.18.6	03 March	Added FixingDate on MarketDataIncremental for streaming NDFs.
1.13.24	16 August 2011	Made tags 95 and 96 mandatory.
1.13.25	9 November 2012	Added new fields for providing market mid rate IncrementalRefresh (9050) and Quote message (9051, 9052)
1.13.26	29 January 2013	Removed reference to "Order Status Request" – our server will not respond to it. Added more detail to conditional tag 140 on new order single.

1.13.27	28 FEB 2013	Updated Pre-Spot Outright calculation logic
1.13.28	12 SEP 2013	Updated TradeRequest with USI field and SDR (Swap Data Repository)
1.13.29	20 DEC 2013	General updates for clarity. Clarified all-in rate calculation and swap pricing. Added supported Tenor values.
1.13.30	20 JAN 2014	Updated TradeRequest with comments regarding UTI, using existing USI fields. Add USI/UTI fields for Post Trade Allocations
1.13.31	10 FEB 2014	Updated TradeRequest with comments regarding UTI, using existing USI fields. Add USI/UTI fields for Post Trade Allocations
1.13.32	29 May 2014	Specified some additional field constraints for orders. Clarified some repeated field group requirements.
1.13.33	22 June 2015	Support for blocks on RFQ (QuoteRequest and Quote messages) and trading (NewOrderSingle and ExecutionReports)
1.13.34	24 July 2015	Added LegFixingDate and LegUSI for blocks implementation
1.13.35	25 August 2015	New support for post-trade operations: allocations, aggregations
1.13.36	17 SEP 2015	Made AggregationAck fields Side and Symbol conditional on accepted status
1.13.37	2 October 2015	Amendments for the blocks implementation on RFQ
1.13.38	2 October 2015	Added Leg Ref ID to 35=D and 35=8 message
1.13.39	3 March 2016	Added Pre trade allocation information – tag 78 and 9418
1.13.40	11 March 2016	Support for explicit NDFs and custom fixing sources

1 Introduction

1.1 Document Scope

This document describes the FIX interface for trading foreign exchange products with JPMorgan.

1.2 Overview

The interface supports market data and quote models. In the market data model, JPMorgan will send spot prices and forward points for immediate execution (fill-or-kill) until the client unsubscribes or end-of-day. In the quote model, JPMorgan will transmit quote updates until the client trades, the quote expires or end-of-day. The market data model supports spot and outright orders while the quote model supports spot, outrights and swaps.

2 Connectivity

Clients will initiate TCP connections to JPMorgan using SSL. JPMorgan requires clients to send a password in the RawData field of all Logon messages. JPMorgan will supply the password after integration testing is complete. JPMorgan supports market data and trading over separate FIX sessions.

2.1 Market Data FIX Session

JPMorgan has designed the market data session to keep FIX session management overhead to a minimum, allowing for low latency delivery of market data. JPMorgan does not persist messages sent on this session, and so market data messages will not be available for replay. JPMorgan will reset sequence numbers on each Logon exchange. Price update messages are sent with a minimum of data to minimize network traffic.

2.2 Order Management FIX Session

JPMorgan persists all FIX messages sent over the order management (trading) session. JPMorgan will reset sequence numbers at the end of each business day (5pm NY time).

3 Session Management

This interface supports the following session messages:

- Heartbeat (MsgType = 0);
- Logon (MsgType = A);
- Test Request (MsgType = 1);
- Resend Request (MsgType = 2);
- Reject (MsgType = 3);
- Sequence Reset (MsgType = 4);
- Logout (MsgType = 5).

3.1 Message Formats

Please note this API requires a password in the RawData field of all Logon messages.

Logon

Logon			
Tag	Field Name	Req'd	Comment
	<i>Standard Header</i>	Y	MsgType = A
108	HeartBtInt	Y	Heartbeat interval in seconds.
98	EncryptMethod	Y	0=None
95	RawDataLength	Y	Password length
96	RawData	Y	Password assigned by JPMorgan
141	ResetSeqNumFlag	N	Indicates both sides of a FIX session should reset sequence numbers.
	<i>Standard Trailer</i>	Y	

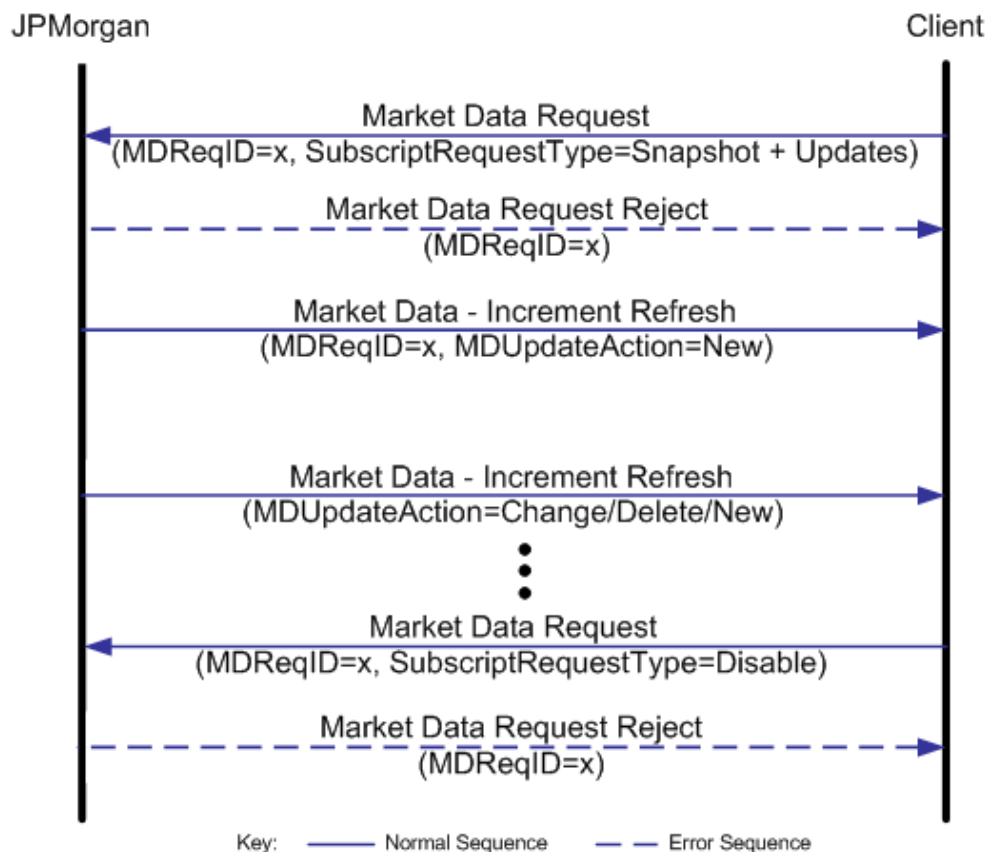
4 Market Data

4.1 Message Flow

Clients request a price stream for a currency pair by submitting a Market Data Request subscription. JPMorgan responds with Market Data – Incremental Refresh messages until the FIX session is lost or disconnected or the client sends a Market Data Request unsubscription.

The initial Market Data message contains the full set of price tiers. JPMorgan will provide send an MDEntry for each price and quantity. Each will have an MDUpdateAction value of New(0). In order to reduce network usage, subsequent Market Data messages only represent changes to the previous messages sent. MDEntryID identifies the entry updated. For example, an update might just include MDEntrySize or MDEntryPx. Clients can request fully populated incremental refresh messages by requesting MDUpdateType Full Refresh(0). JPMorgan does not recommend this for clients with network capacity limitations.

JPMorgan will withdraw prices using MDUpdateAction Delete(2). Once JPMorgan deletes an MDEntryID, it is no longer used. Subsequent changes will reference a new MDEntryID.



Clients can request only one stream of either spot rates or forward points for a particular tenor. JPMorgan will use Market Data Request Reject messages to reject multiple requests for the same stream.

Clients trading outright with the market data model must calculate all-in rates from the combination of forward points and spot rate. Clients subscribing to the quote model will receive all-in rates.

Trading across multiple layers

Clients who want to trade a quantity greater than the inside layer have the following options:

1. Place one order for the full quantity with the price of the most outside layer that cumulatively fills the desired quantity. For example:
Client desires 7M. 4 layers of 5M are streamed. Cumulative quantity is 20M. Client must take from layers 1 and 2. Client can place one trade for 7M at the layer 2 price.
2. Place individual trades at each layer price until the desired quantity has been filled. For example:
Client desires 7M and 4 layers of 5M are streamed. Client can place two trades- 5M at the layer 1 price and 2M at the layer 2 price.
3. Place one trade at the VWAP price. For example:
Client desires 7M and 4 layers of 5M are streamed. Client can place one trade of 7M at the VWAP price. The VWAP price formula can be found in Appendix A. In this case: $\text{price} = (5M * \text{layer 1 price} + 2M * \text{layer 2 price}) / 7M$.

Calculating the all-in rate

Please refer to Appendix B to see the all-in rate calculation for outright.

4.2 Message Formats

Market Data Request

Market Data Request				
Tag	Field Name		Req'd	Comment
	Standard Header		Y	MsgType = V
262	MDReqID		Y	Unique identifier allocated by the client for the subscription. When unsubscribing (SubscriptionRequestType = 2), the same ID must be supplied.
263	SubscriptionRequestType		Y	SubscriptionRequestType indicates the type of response expected. 1 = Snapshot + Updates (Subscribe) 2 = Disable previous Snapshot + Update Request (Unsubscribe)
264	MarketDepth		Y	0 = Full Book
265	MDUpdateType		C	Required if SubscriptionRequestType = 1. 0 = Full Refresh 1 = Incremental Refresh (default)
266	AggregatedBook		Y	Y = one book entry per side per price
9001	RequestedSize		N	Quantity requested. If present, only 1 layer will be streamed
267	NoMDEntryTypes		Y	Number of MDEntryType fields to follow.
	269	MDEntryType	Y	0 = Bid 1 = Offer
146	NoRelatedSym		Y	Must be 1
	55	Symbol	Y	Currency pair (base/term). Base and term are ISO currency code, e.g. EUR/USD. This must be the first field

				in the repeated field group.
	107	Security Desc	N	Product: SPOT – spot rates (default) OUTRIGHT – forward points or outright all-in rates (see field 9010)
	64	FutSettDate	C	Required if SecurityDesc = OUTRIGHT and Tenor is <i>not</i> specified. The tenor or a broken value date of the forward points. The tenor can also be specified in the Tenor (9002) field.
	9251	NDF	N	NDF indicates the delivery type of this request. If not specified, a default delivery type for the Symbol in tag 55 will be selected. Y – The request is for NDF spot reference rates or NDF forward points N – The request is for deliverable spot rates or forward points for deliverable outright
	6203	FixingDate	N	Fixing date in ISO 8601 format – YYYY-MM-DD for non-deliverable forwards (NDFs). Used if NDF = Y and SecurityDesc = OUTRIGHT. If not specified, JP Morgan will select a default fixing date.
	6204	FixingSource	N	The name of the fixing source on a NDF. See Appendix D for the list of supported fixing sources. Used if NDF = Y and SecurityDesc = OUTRIGHT. If not specified, JP Morgan will select a default fixing source.
	9002	Tenor	C	Required if SecurityDesc = OUTRIGHT and FutSettDate is <i>not</i> specified. The tenor of the forward points. The tenor or broken value date can also be specified in FutSettDate. Note, <i>only</i> a tenor can be specified in this field. See Appendix C for supported Tenor values
	9010	Outright AllInRate	N	Used if SecurityDesc = OUTRIGHT. Y - all-in rate N – forward points only (default)
	Standard Trailer		Y	

Market Data Request Reject

Market Data Reject			
Tag	Field Name	Req'd	Comment
	Standard Header	Y	MsgType = Y

262	MDReqID	Y	MDReqID of the request.
281	MDReqRejReason	N	0 = Unknown Symbol 1 = Duplicate MDReqID 2 = Insufficient Bandwidth 3 = Insufficient Permissions
58	Text	N	Description of the rejection reason.
	<i>Standard Trailer</i>	Y	

Market Data – Incremental Refresh

Market Data – Incremental Refresh				
Tag	Field Name		Req'd	Comment
	<i>Standard Header</i>		Y	MsgType = X
262	MDReqID		N	As provided in the Market Data Request. Will be included in all messages that have NoMDEntries with MDUpdateAction of New(0)
268	NoMDEntries		Y	Number of entries following.
	279	MDUpdateAction	Y	0 = New 1 = Change 2 = Delete
	107	SecurityDesc	N	The product type the request is for: SPOT – spot OUTRIGHT – forward points OUTRIGHTALLIN – all-in rate Present only if MDUpdateAction is New(0).
	269	MDEntryType	N	0 = Bid 1 = Offer Present only if MDUpdateAction is New(0).
	278	MDEntryID	C	Usage dependent on MDUpdateAction: If New(0) will be a unique identifier for the entry; If Change(1) or Delete(2) will be a reference to the previous identifier for the entry.
	55	Symbol	C	Currency pair (base/term). Base and term are ISO currency code, e.g. EUR/USD. Present only if MDUpdateAction is New(0).
	270	MDEntryPx	N	SPOT – Spot price OUTRIGHT – forward points OUTRIGHTALLIN – all-in rate Presence dependent on MDUpdateAction: If New(0) always present; If Change(1) only present if changed since previous entry; If Delete(2) not present.

	9050	MarketMidRate	C	<p>The market mid-rate, which should be used to calculate the all-in mid-rate for an OUTRIGHT or NDF quote. This tag will be present only on connections subject to Dodd-Frank regulation. The content is dependent on the value of SecurityDesc:</p> <p>SPOT – Market mid-rate of the spot component of an OUTRIGHT, or the spot reference of a NDF.</p> <p>OUTRIGHT – Market mid-rate of the forward points.</p> <p>OUTRIGHTALLIN – Market mid-rate of the outright all-in rate.</p> <p>Presence dependent on MDUpdateAction: If New(0), always present; If Change(1), only present if changed since previous entry; If Delete(2), not present.</p>
	9003	PipPlacement	N	<p>Number of decimal places forward points should be shifted for all-in rate calculations</p> <p>Present if MDUpdateAction is New(0).</p>
	9006	ValueDate	N	<p>Value date for the currency pair. YYYY-MM-DD</p> <p>Present if MDUpdateAction is New(0).</p>
	15	Currency	N	<p>Currency MDEntrySize is specified in.</p> <p>Present if MDUpdateAction is New(0).</p>
	271	MDEntrySize	C	<p>Quantity available at the given MDEntryPx in the specified Currency (tag 15).</p> <p>Presence dependent on MDUpdateAction: If New(0), always present; If Change(1), only present if changed since previous entry; If Delete(2), not present.</p>
	273	MDEntryTime	N	Time of Market Date Entry
	126	ExpireTime	C	<p>The time at which this price will expire.</p> <p>Presence dependent on MDUpdateAction: If New(0), always present; If Change(1), only present if changed since previous entry; If Delete(2), not present.</p>
	290	MDEntryPosition No	N	<p>Display position of a bid or offer, numbered from most competitive to least competitive, per market side, beginning with 1.</p> <p>Present if MDUpdateAction is New(0).</p>
	6203	FixingDate	N	Fixing date in ISO 8601 format – YYYY-MM-DD for Non-Deliverable Forwards (NDFs).

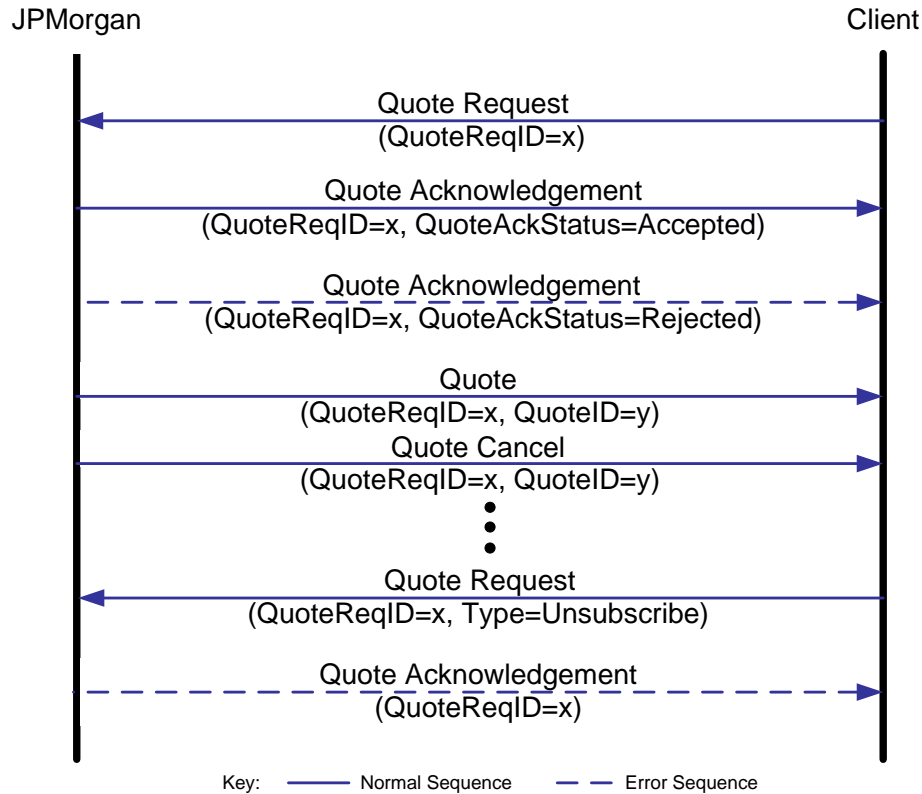
				Present if MDUpdateAction is New(0)
	6204	FixingSource	N	The name of the fixing source on a NDF. See Appendix D for the list of supported fixing sources. Present if a fixing source was specified in the Market Data Request and if MDUpdateAction is New (0).
	1026	MDEntrySpotRate	C	Spot price. Present if using all-in rate.
	1027	MDEntryForward Points	C	Forward points. Present if using all-in rate.
	299	StreamingQuoteID	N	QuoteID for the market data update
	Standard Trailer		Y	

5 Quotes

This API also supports quotes. Clients send Quote Requests, with Time-To-Live (TTL), and JPMorgan streams Quotes until one of the following occurs:

- TTL is reached
- Client trades on a Quote
- Client sends a Quote Request to unsubscribe

5.1 Message Flow



5.2 Message Format

Quote Request

Quote Request			
Tag	Field Name	Req'd	Comment
	<i>Standard Header</i>	Y	MsgType = R
131	QuoteReqID	Y	Unique identifier for the request allocated by the client.
9005	QuoteRequestSubscriptionType	N	1 = Subscribe (default) 2 = Unsubscribe
9004	AccountID	Y	Account to book the trade to.
9251	NDF	N	NDF indicates the delivery type for this request. If not specified, but the FixingDate(6203) tag is set, then NDF is assumed to be Y.

			Y – This request is for a NDF N – This request is for a deliverable forward
6203	FixingDate	N	Fixing date in ISO 8601 format – YYYY-MM-DD for Non-Deliverable Forwards (NDFs).
6204	FixingSource	N	The name of the fixing source on an NDF. See Appendix D for the list of supported fixing sources. If not specified on a NDF request, JP Morgan will select a default fixing source.
146	NoRelatedSym	Y	Must be 1
	55	Symbol	Y Currency pair (base/term). Base and term are ISO currency code, e.g. EUR/USD. This must be the first field in the repeated field group.
	107	Security Desc	Y Product type: SPOT SWAP OUTRIGHT BLOCK
	167	SecurityType	Y FOR = Foreign Exchange Contract
	303	QuoteRequestType	Y 2 = Automatic
	336	TradingSessionID	C Required if 9005=2
	54	Side	N 1 = Buy 2 = Sell If not specified, both sides are sent. For a SWAP, this specifies the near leg side. For a BLOCK, this is ignored and side on individual legs is used.
	38	OrderQty	Y The quantity the Quote Request is for. Quantity for the near leg if SecurityDesc is OUTRIGHT or SWAP. For a BLOCK, this is ignored and quantity on individual legs is used.
	64	FutSettDate	C Required if SecurityDesc is SWAP or OUTRIGHT The tenor of the near leg (SWAP) or the OUTRIGHT
	193	FutSettDate2	C Required if SecurityDesc is SWAP The tenor of the far leg
	192	OrderQty2	N Present if SecurityDesc is SWAP and near and far leg quantities differ. Default is near leg quantity (OrderQty)
	126	ExpireTime	Y The time when the Quote Request will expire
	15	Currency	Y The currency of the quoted price
	9220	IsSEF	N Whether or not the request is for SEF execution. Only applies for NDFs.

				Y = SEF execution N = Not SEF execution
	555	NoLegs	C	For SecurityDesc BLOCK, this indicates the number of legs
	654	LegRefID	Y	Client reference id for the leg. This must be the first field in the repeated field group.
	624	LegSide	Y	1 = Buy 2 = Sell
	687	LegQty	Y	The quantity of the leg, the quote request is for
	588	LegSettleDate	Y	The tenor or date of the leg
	9184	LegAccount	Y	Settlement account for the leg
	9210	LegFixingDate	N	Fixing date in ISO 8601 format – YYYY-MM-DD for Non-Deliverable Forwards (NDFs).
9312	RollExecID		N	Identifier for a trade that is to be rolled in. This could be the value of the ExecID (tag 17) from an Execution Report, or a deal ID from an STP feed.
	Standard Trailer		Y	

Quote Acknowledgement

Quote Acknowledgement			
Tag	Field Name	Req'd	Comment
	Standard Header	Y	MsgType = b (note lowercase)
131	QuoteReqID	Y	Unique identifier for the request allocated by the client.
117	QuoteID	C	The QuoteID of the Quote Message this is an acknowledgement for. Required if this is a Quote Acknowledgement in response to a Quote message
297	QuoteAckStatus	Y	Status of the Quote Acknowledgement: 0 = Accepted 5 = Rejected 7 = Expired 10 = Pending
300	QuoteRejectReason	C	The reason the Quote Request was rejected Provided if QuoteAckStatus = Rejected(5) and the Quote Acknowledgement is in response to a Quote Request
336	TradingSessionID	C	Unique identifier for the RFS. This value will be supplied with every Quote that is a result of the QuoteRequest. Provided if QuoteAckStatus = Accepted(0) or

			Expired(7)
	<i>Standard Trailer</i>	Y	

Quote cancel

Quote Cancel			
Tag	Field Name	Req'd	Comment
	<i>Standard Header</i>	Y	MsgType = Z
131	QuoteReqID	Y	Unique identifier for the request allocated by the client.
117	QuoteID	Y	Unique identifier for the Quote being cancelled
298	QuoteCancelType	Y	1 = Cancel for Symbol
301	QuoteResponseLevel	N	Level of Response required from receiver of Quote message.
336	TradingSessionID	Y	Unique identifier for the RFS.
295	NoQuoteEntries	Y	Must be 1
55	Symbol	Y	Currency pair (base/term). Base and term are ISO currency code, e.g. EUR/USD
	<i>Standard Trailer</i>	Y	

Quote

Quote			
Tag	Field Name	Req'd	Comment
	<i>Standard Header</i>	Y	MsgType = S
131	QuoteReqID	N	Unique identifier for the request allocated by the client.
117	QuoteID	Y	Unique identifier for this Quote
301	QuoteResponseLevel	N	Level of Response required from receiver of Quote message.
336	TradingSessionID	Y	Unique identifier for the RFS
55	Symbol	Y	Currency pair (base/term). Base and term are ISO currency code, e.g. EUR/USD
132	BidPx	C	All-in bid rate. Only present if the original request was for a sell.
133	OfferPx	C	All-in offer rate. Only present if the original request was for a buy.
134	BidSize	C	Bid quantity. Only present if the original request was for a sell.
135	OfferSize	C	Offer quantity. Only present if the original request was for a buy.
9051	MarketNearMidRate	C	Market mid-rate for an OUTRIGHT or for the near leg

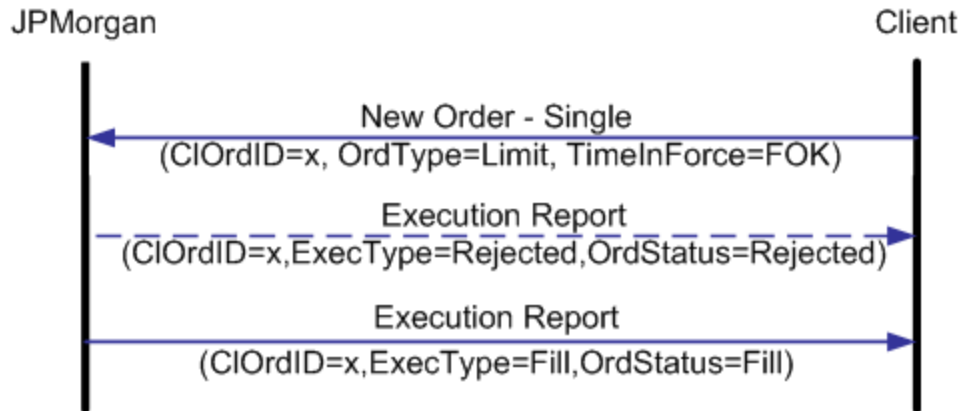
			of a SWAP. Present only on connections subject to Dodd-Frank regulation and if at least one of BidPx and OfferPx are present.
7600	BidFarAllInRate	C	Far-leg all-in bid rate for swaps. Only present if the original request was for a sell.
7601	OfferFarAllInRate	C	Far-leg all-in offer rate for swaps. Only present if the original request was for a buy.
9052	MarketFarMidRate	C	Far leg market mid-rate for swaps. Only present on connections subject to Dodd-Frank regulation and if at least one of BidFarAllInRate and OfferFarAllInRate are present.
62	ValidUntilTime	N	Quote expiration time.
64	FutSettlDate	N	Value date
188	BidSpotRate	N	The spot component of the bid. Only present if the original request was for a sell. Same as BidPx if the request was for SPOT. Provided for all product types.
190	OfferSpotRate	N	The spot component of the offer. Only present if the original request was for a buy. Same as OfferPx if the request was for SPOT.
189	BidForwardPoints	N	Bid forward points. Only present if the original request was for a sell. Near leg bid forward points for swaps.
191	OfferForwardPoints	N	Offer forward points. Only present if the original request was for a buy. Near leg forward points for swaps.
7598	BidFarForwardPoints	N	Far-leg bid forward points for swaps. Only present if the original request was for a sell.
7599	OfferFarForwrdPoints	N	Far-leg offer forward points for swaps. Only present if the original request was for a buy.
7590	BidSwapPoints	N	Bid side swap points
7591	OfferSwapPoints	N	Offer side swap points
555	NoLegs	C	For SecurityDesc BLOCK, this indicates the number of legs
	654	LegRefID	Y Client reference id for the leg. This must be the first field in the repeated field group.
	624	LegSide	Y 1 = Buy 2 = Sell
	687	LegQty	Y The quantity of the leg, the quote request is for
	588	LegSettlDate	Y The tenor or date of the leg
	1067	LegBidForwa rdPoints	N Bid forward points. Only present if the original request was for a sell.

	681	LegBidPx	N	Bid outright rate. Only present if the original request was for a sell.
	1068	LegOfferForwardPoints	N	Offer forward points. Only present if the original request was for a buy.
	684	LegOfferPx	N	Offer outright rate. Only present if the original request was for a buy.
	9053	LegMarketMidRate	C	Market mid-rate for the leg tenor of the BLOCK. Present only on connections subject to Dodd-Frank regulation and if at least one of LegBidForwardPoints and LegOfferForwardPoints are present.
	Standard Trailer		Y	

6 Order Management

This API supports only limit and market Fill or Kill orders. This makes the message sequence very simple. If the client sends a limit order and the price matches or improves upon the current market price, the order will be filled.

If the client sends a market order and the entire order quantity is available, the order will be filled. This API does not support market orders for trading on term currency.



6.1 Message Format

New Order – Single

New Order – Single			
Tag	Field Name		Req'd Comment
	Standard Header		Y MsgType = D
11	ClOrdID		Y Unique identifier for the order allocated by the client. Maximum length is 29 characters. Only alphanumeric characters, "-", and "_" are supported in this field.
117	QuoteID		C Unique ID of the Quote traded against. Required for any response to a Quote.
386	NoTradingSessions		C Must be 1 if QuoteID(117) is provided
	336	Trading SessionID	C If responding to a quote, must be the TradingSessionID from that Quote
1	Account		Y Settlement account This is ignored for BLOCKs. For a BLOCK this must be set at leg level
107	SecurityDesc		N Product type: SPOT (default) OUTRIGHT SWAP BLOCK

21	HandlInst	Y	1 = Automated execution order, private, no Broker intervention
110	MinQty	N	Minimum fill quantity. If specified, must equal OrderQty.
55	Symbol	Y	Currency pair (base/term). Base and term are ISO currency code, e.g. EUR/USD
167	SecurityType	Y	FOR = Foreign Exchange Contract
54	Side	Y	1 = Buy 2 = Sell For SecurityDesc BLOCK, this tag will be ignored at top level
60	TransactTime	Y	Time this order request was initiated/released by the trader or trading system.
38	OrderQty	Y	Trade quantity in the specified Currency (15) For SecurityDesc BLOCK, this tag will be ignored at top level
40	OrdType	Y	F = Forex – Limit C = Forex – Market Note that trading on term currency using market orders is not supported.
44	Price	Y	All-in rate. For Market Orders (40=C), must be 0 This should not be set here for SecurityDesc BLOCK and instead set at leg level
140	PrevClosePx	C	Required if SecurityDesc is SWAP. Optional for OUTRIGHT. Most recent BidSpotRate or OfferSpotRate. For Market Orders (40=C), must be 0
15	Currency	Y	The dealt currency (ISO code).
59	TimeInForce	Y	4 = Fill or Kill (FOK)
64	FutSettDate	C	Required if SecurityDesc = OUTRIGHT or SWAP. The settlement date or tenor. This should not be set here for SecurityDesc BLOCK and instead set at leg level
192	OrderQty2	N	Far leg swap quantity. Default is near leg quantity.
193	FutSettDate2	C	Required if SecurityDesc is SWAP. The settlement date or tenor for the far leg of a swap.
7592	SwapPoints	N	The swap points if the order is for a swap. Not required for market orders (40=C)
7593	Price2	C	The far-leg all in rate. Only required for a swap. Not required for market orders (40=C)
7602	NearFwdPoints	N	The near-leg forward points. Can be provided for OUTRIGHTS or SWAPS. Not required for market orders (40=C)

7603	FarFwdPoints	N	The far-leg forward points. Can be provided for SWAPS. Not required for market orders (40=C)
9251	NDF	N	<p>NDF indicates the delivery type for this order.</p> <p>If not specified, and the FixingDate(6203) tag is set, then NDF is assumed to be Y.</p> <p>If not specified, and the FixingDate(6203) is not set, then JP Morgan will select a default delivery type for the symbol.</p> <p>Y – This order is for a NDF</p> <p>N – This order is for a deliverable forward</p>
6203	FixingDate	N	Fixing date in ISO 8601 format – YYYY-MM-DD for Non-Deliverable Forwards (NDFs).
6204	FixingSource	N	<p>The name of the fixing source on a NDF order. See Appendix D for the list of supported fixing sources.</p> <p>If not specified on a NDF order, JP Morgan will select a default fixing source.</p>
9007	SettlementInstruction	N	String field for settlement instructions.
9415	SubAccountIdentifier	N	String field for sub account identifier. Only alphanumeric characters, "-", and "_" are supported in this field.
9008	TraderIdentifier	N	Indicates the trader or user that submitted this order. Only alphanumeric characters, "-", and "_" are supported in this field.
9203	ClRefRequestId	N	String field for client reference request ID. Only alphanumeric characters, "-", and "_" are supported in this field.
9220	IsSEF	N	<p>Whether or not this order is for SEF execution.</p> <p>Y = SEF execution</p> <p>N = Not SEF execution</p> <p>If Y, USIValue(9221) and SwapDataRepository(9222) must be set.</p> <p>To specify an EMIR UTI, provide the following:</p> <p>IsSEF(9220) = N</p> <p>USIValue(9221) = <UTI></p>
9221	USIValue	C	<p>For NDFs, the unique swap identifier generated and reported by the SEF.</p> <p>For OUTRIGHT and SWAP orders, this is the unique transaction ID (UTI).</p>
9222	SwapDataRepository	C	<p>Required if IsSEF(9220) = Y</p> <p>The transaction repository for reporting the trade.</p>
9229	USIValue2	C	<p>Required if IsSef(9220) = N</p> <p>For SWAP orders, this is the far leg UTI.</p>

299	StreamingQuoteID	N	QuoteID for the market data update
555	NoLegs	C	For SecurityDesc BLOCK, this indicates the number of legs in the block trade
654	LegRefID	Y	Client reference id for the leg. This must be the first field in the repeated field group.
624	LegSide	Y	1 = Buy 2 = Sell
687	LegQty	Y	The quantity of the leg, the quote request is for
588	LegSettlDate	Y	The tenor or date of the leg
566	LegPrice	Y	All-in rate for the leg
9184	LegAccount	Y	Settlement account for the leg
9210	LegFixingDate	N	Fixing date in ISO 8601 format – YYYY-MM-DD for Non-Deliverable Forwards (NDFs).
9211	LegUSIValue	C	Unique identifier generated for the leg by SEF
78	NoAllocs	N	Number of allocation groups. Near leg group for swaps.
79	AllocAccount	Y	Client account for allocation.
80	AllocQty	Y	Allocation quantity. Supports bi-direction, use (-) negative to allocate to the opposite side
9418	NoAllocs2	N	Number of allocation groups. Only for swap far leg.
9419	AllocAccount2	Y	Client account for allocation.
9420	AllocQty2	Y	Allocation quantity. Supports bi-direction, use (-) negative to allocate to the opposite side
	Standard Trailer	Y	

Execution Report

Execution Report			
Tag	Field Name	Req'd	Comment
	Standard Header	Y	MsgType = 8
37	OrderID	Y	Unique identifier for the order allocated by JPMorgan. For rejects, the value will be "UNKNOWN".
11	ClOrdID	Y	Unique identifier for the order allocated by the client.
17	ExecID	Y	Unique ID for each fill
107	SecurityDesc	N	Product type: SPOT OUTRIGHT SWAP BLOCK

20	ExecTransType	Y	0 = New
150	ExecType	Y	2 = Fill 8 = Rejected
39	OrdStatus	Y	2 = Filled 8 = Rejected
1	Account	N	The account the trade was booked against.
55	Symbol	Y	Currency pair (base/term). Base and term are ISO currency code, e.g. EUR/USD
54	Side	Y	1 = Buy 2 = Sell For SecurityDesc BLOCK, this will field will not be set at top level
38	OrderQty	N	Order quantity in the specified Currency (tag 15). For SecurityDesc BLOCK, this will field will not be set at top level
40	OrdType	N	F = Forex – Limit C = Forex – Market
44	Price	N	Order price. For a swap order, this is the near leg For SecurityDesc BLOCK, this will field will not be set at top level
15	Currency	N	The dealt currency (ISO code).
59	TimeInForce	N	4 = Fill or Kill (FOK)
32	LastShares	N	The amount filled by the order (0 or full amount).
31	LastPx	N	Fill price. For a SWAP order, this is the near leg For SecurityDesc BLOCK, this will field will not be set at top level
151	LeavesQty	Y	Remaining quantity still to be filled. For a SWAP order, this is the near leg
14	CumQty	Y	The total amount of the order filled. For a SWAP order, this is the near leg
6	AvgPx	Y	The average price for all executed quantity. For a SWAP order, this is the near leg
110	MinQty	N	Minimum fill quantity. For a SWAP order, this is the near leg
58	Text	N	Description of why an order was rejected.
64	FutSettDate	N	The near leg settlement date.
192	OrderQty2	N	The amount for the far leg of a swap.

194	LastSpotRate	C	Spot execution price.
195	LastForwardPoints	C	The forward points of the near leg for swaps. See Appendix B for all-in rate calculations.
7592	SwapPoints	C	Only present for swap orders.
193	FutSettDate2	N	The settlement date or tenor for the far leg of a swap.
7593	Price2	C	The all-in rate for the far leg of a swap order. Only present for swap orders.
7596	CumQty2	C	Total cumulative far leg quantity filled.
7595	AvgPx2	C	Far leg average fill price for cumulative quantity..
7594	LastPx2	C	Far leg fill price
7597	MinQty2	C	Minimum execution quantity for the far leg. Always equal to OrderQty2. Only present for swap orders.
9251	NDF	N	This tag is only present if the NDF tag was present on the New Order Single message. Y – This Execution Report is for a NDF N – This Execution Report is for a deliverable forward
6203	FixingDate	N	Fixing date in ISO 8601 format - YYYY-MM-DD for Non-Deliverable Forwards (NDFs).
6204	FixingSource	N	The name of the fixing source on a NDF. See Appendix D for the list of supported fixing sources. This tag is only present if a fixing source was specified in the New Order Single message.
9228	LegalEntity	N	For SEF trades, identifier for the legal entity that will settle the trade.
555	NoLegs	C	For SecurityDesc BLOCK, this indicates the number of legs in the block trade
654	LegRefID	Y	Client reference id for the leg. This must be the first field in the repeated field group.
624	LegSide	Y	1 = Buy 2 = Sell This must be the first field in the repeated field group.
687	LegQty	Y	The quantity of the leg, the quote request is for
588	LegSettlDate	Y	The tenor or date of the leg
566	LegPrice	N	Order Price
637	LegLastPx	Y	Fill price
9184	LegAccount	Y	Settlement account for the leg
9312	RollExecId	N	Identifier for a previous trade that was rolled, as identified in the Quote Request

	<i>Standard Trailer</i>	Y	
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7 Allocations

Clients can specify post-trade allocation using this API, as well.

7.1 Message Format

Allocation

Allocation			
Tag	Field Name		Req'd Comment
	Standard Header		Y MsgType = J
70	AllocID		Y Unique request ID provided by the client. Maximum length is 32 characters.
71	AllocTransType		Y 0=New
107	SecurityDesc		Y Product type: SPOT (default) OUTRIGHT SWAP
124	NoExecs		Y Must be 1
	17	ExecID	Y ExecID allocated by JP Morgan in an execution report or trade ID from an STP feed.
54	Side		Y Side of the order to split 1=Buy 2=Sell
55*	Symbol		Y Currency pair of the trade to split
64	FutSettDate		C Required if SecurityDesc = OUTRIGHT or SWAP. The settlement date or tenor.
78	NoAllocs		Y Indicates the number of allocation groups to follow
	79	AllocAccount	Y The account the allocation is settled in
	80	AllocShares	Y The size in the specific currency in tag 120
	161	AllocText	Y To indicate the direction of each allocation. This can only take two values: Buy Sell
	120	SettlCurrency	Y ISO code for the dealt currency.
	9220	IsSEF	N To specify an EMIR UTI, provide the following: isSEF = N, set the UTI in the USIValue(9221) tag.
	9221	USIValue	C Required if 9220 set = N For, OUTRIGHT and SWAPS, the unique transaction id. (UTI)
193	FutSettDate2		C Required if SecurityDesc is SWAP. The settlement

			date or tenor for the far leg of a swap.
	<i>Standard Trailer</i>	Y	

Allocation Ack

Allocation Ack			
Tag	Field Name		Req'd Comment
	<i>Standard Header</i>		Y MsgType = P
70	AllocID		Y Unique ID of the allocation.
75	TradeDate		N Allocation trade date
87	AllocStatus		Y Allocation Status 0 – Accepted 2 - Rejected
58	Text		N Description of status
124	NoExec		Y Number of allocated trades resulting from Allocation operation
	17	ExecID	N New Exec ID allocated by JPMorgan as result of Allocation request, when AllocStatus = 0. May be same as original ExecId.
19	ExecRefID		N Original Exec ID, if cancelled by JPMorgan as result of Allocation request, when AllocStatus = 0.
	<i>Standard Trailer</i>		Y

8 Aggregations

Clients can specify post-trade aggregation using this API, as well.

8.1 Message Format

Aggregation

Aggregation			
Tag	Field Name	Req'd	Comment
	Standard Header	Y	MsgType = U1
9430	AggregateID	Y	Unique request ID provided by the client. Maximum length is 32 characters.
1	Account	Y	The account to book the resulting aggregated trades into
124	NoExecs	Y	Lists all trades to be aggregated
	17	ExecID	Trade ID allocated by JPMorgan in execution reports (tag 17)
	Standard Trailer	Y	

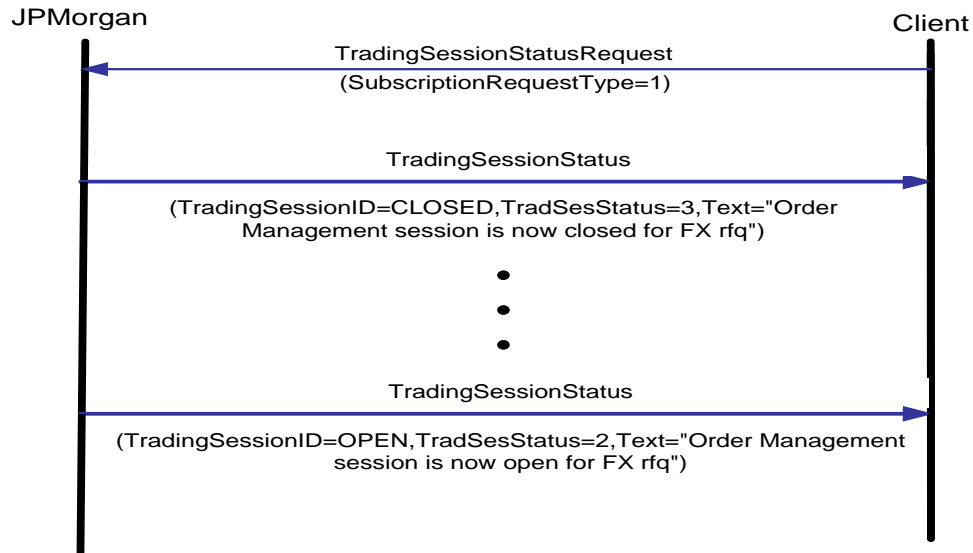
Aggregation Ack

Aggregation Ack			
Tag	Field Name	Req'd	Comment
	Standard Header	Y	MsgType = U2
9430	AggregateID	Y	Unique ID of the aggregation.
9431	AggregateStatus	Y	Aggregation Status 0 – Accepted 2 – Rejected
58	Text	N	Description of status
17	ExecID	N	New trade ID allocated by JPMorgan as result of Aggregation request.
54	Side	C	1 = Buy 2 = Sell
64	FutSettDate	N	Settlement date.
55	Symbol	C	Currency pair (base/term). Base and term are ISO currency code, e.g. EUR/USD
31	LastPx	N	Fill price.
15	Currency	N	The dealt currency (ISO code).
1	Account	N	The account the trade was booked against.
32	LastShares	N	The amount filled by the order (0 or full amount).
	Standard Trailer	Y	

9 Trading Session Status

9.1 Message Flow

This API supports trading session status for RFS only. Clients can request the trading session status of their Order Management and Market Data FIX sessions by sending a `TradingSessionStatusRequest` on each one. JPMorgan will always send the same status for both the Market Data and Order Management sessions.



9.2 Message Format

Trading Session Status Request

TradingSessionStatusRequest			
Tag	Field Name	Req'd	Comment
	Standard Header	Y	MsgType = g
335	TradSesReqID	Y	Request ID assigned by the client.
263	SubscriptionRequestType	Y	0 = Snapshot 1 = Snapshot + Updates 2 = Unsubscribe
	Standard Trailer	Y	

Trading Session Status

Trading Session Status			
Tag	Field Name	Req'd	Comment
	<i>Standard Header</i>	Y	MsgType = h
336	TradingSessionID	Y	RFQ-OPEN = Open RFQ-CLOSED = Closed
340	TradSesStatus	Y	2 = OPEN 3 = CLOSED
58	Text	N	Description of status e.g "Order Management session open for FX rfq"
	<i>Standard Trailer</i>	Y	

Appendix A - VWAP Price Calculation

If you want to send an order with for a quantity that spans price layers, you can use a VWAP price. This appendix describes how to calculate that price.

With prices on one side at P_1, P_2, \dots, P_n for amounts A_1, A_2, \dots, A_n ,

the VWAP price is $\sum P_n A_n / \sum A_n$

For example:

Layer	Ask Qty	Ask Price
1 (inside)	10	1.51
2	10	1.52
3	10	1.53

The order price for quantity 25 is $(1.51 \cdot 10 + 1.52 \cdot 10 + 1.53 \cdot 5) / 25$

Note that you're not using the total layer size of 10MM in layer 3, because you only have 5 MM to execute at the layer 3 price.

If you are calculating all-in rates for outright limit orders that span layers, please note you will need to VWAP both the spot prices and forward points (see Appendix B for examples).

Appendix B – Order Prices for Spot and Outrights

This appendix describes how to use quoted prices in limit orders. Please note the differences in calculating the all-in rate for outright versus pre-spot outright. Also note that all-in rates are sent in Quote messages but not Market Data messages. For orders in the market data model, clients must calculate limit prices from spot prices and forward points.

Please note that Forward Points below are calculated as MDEntryPx * 10^{-pip placement}

Spot

Action	Price used
Name	Spot Price
Buy base currency	Ask
Buy terms currency	Bid
Sell base currency	Bid
Sell terms currency	Ask

Outright

Action	Price Used	
Name	Spot Price	Forward Points
Buy base currency	Ask	Ask
Buy terms currency	Bid	Bid
Sell base currency	Bid	Bid
Sell terms currency	Ask	Ask

All-In Price Calculation: all-in price = spot price + forward points

Examples-

Buying base currency: all-in price = ask spot + ask forward points

Buying term currency: all-in price = bid spot + bid forward points

Selling base currency: all-in price = bid spot + bid forward points

Selling term currency: all-in price = ask spot + ask forward points

Example All-In Rate Calculations in the Market Data model

Consider the following example for trading the base currency given market data.

Current Spot for USD/JPY:

Ask Layer	Ask Spot Quantity	Ask Spot Price
3	12M	81.59
2	2M	81.58
1 (inside)	1M	81.57
Bid Layer	Bid Spot Quantity	Bid Spot Price
1 (inside)	1M	81.56
2	2M	81.55
3	12M	81.54

Current Forward Points for USD/JPY:

Ask Layer	Ask Forward Points Quantity	Ask Forward Points
3	10M	-0.18
2	10M	-0.19
1 (inside)	10M	-0.20
Bid Layer	Bid Forward Points Quantity	Bid Forward Points
1 (inside)	10M	-0.21
2	10M	-0.22
3	10M	-0.23

To buy 15M base (USD):

First, calculate the VWAP spot price.

$$\text{Spot VWAP} = (81.57 * 1,000,000 + 81.58 * 2,000,000 + 81.59 * 12,000,000) / 15,000,000 = 81.578$$

NOTE that the spot VWAP is rounded before the calculation continues.

Then, calculate the VWAP forward points.

$$\text{Forward points VWAP} = -0.2 * 10,000,000 + -0.19 * 5,000,000 = -0.19667$$

$$\text{Order Price} = \text{Spot VWAP} + \text{Forward points VWAP} = 81.578 - 0.19667 = 81.390$$

To buy 900M term (JPY):

First, find the available term liquidity at each layer.

$$\text{Layer 1 term quantity} = (81.56 - 0.21) * 1,000,000 = 81,350,000$$

$$\text{Layer 2 term quantity} = (81.55 - 0.21) * 2,000,000 = 162,800,000$$

$$\text{Layer 3 term quantity} = (81.54 - 0.21) * 7,000,000 = 559,310,000$$

$$\text{Layer 4 term quantity} = (81.54 - 0.22) * 2,000,000 = 162,640,000$$

Then, calculate the VWAP price.

$$\text{Spot VWAP} = (81.56 * 81,350,000 + 81.55 * 162,800,000 + 81.54 * 655,850,000) / 900,000,000 = 81.544$$

NOTE that the spot VWAP is rounded before the calculation continues.

Forward points VWAP =

$$(-0.21 * 244,150,000 + -0.22 * 655,850,000) / 900,000,000 = -0.217287$$

$$\text{Order price} = 81.544 - 0.217287 = 81.327$$

Outright – Pre-Spot

Action	Price Used	
	Spot Price	Forward Points
Buy base currency	Ask	Bid
Buy terms currency	Bid	Ask
Sell base currency	Bid	Ask
Sell terms currency	Ask	Bid

All-In Price Calculation: all-in price = spot price – forward points

Examples-

Buying base currency: all-in price = ask spot - bid forward points

Buying term currency: all-in price = bid spot - ask forward points

Selling base currency: all-in price = bid spot - ask forward points

Selling term currency: all-in price = ask spot - bid forward points

Example All-In Rate Calculations in the Market Data model (using the market data above)

To buy 15M base (USD):

Spot VWAP =

$$(81.57 * 1,000,000 + 81.58 * 2,000,000 + 81.59 * 12,000,000) / 15,000,000 = 81.587$$

NOTE that the spot VWAP is rounded before the calculation continues.

$$\text{Forward points VWAP} = (0.21 * 10,000,000 + 0.22 * 5,000,000) / 15,000,000 = 0.2133333$$

$$\text{Order price} = 81.587 + 0.2133333 = 81.800$$

Order Prices for Swaps

For swaps, all-in prices are sent in the Quote messages. Clients simply need to decide which side and leg to use for their order prices. The tables below illustrate which fields to use from the Quote for setting Price and Price2 on a limit swap order.

Swap

Action		Near Leg	Far Leg
Near Leg	Far Leg	Price	Price2
Buy base currency	Sell base currency	BidPx	BidFarAllInRate
Buy terms currency	Sell terms currency	BidPx	BidFarAllInRate
Sell base currency	Buy base currency	OfferPx	OfferFarAllInRate
Sell terms currency	Buy terms currency	OfferPx	OfferFarAllInRate

If you subscribe to base and trade term (or vice versa), please use the below table.

Swap – Quoting and Trading Different Currencies

Action		Near Leg	Far Leg
Near Leg	Far Leg	Price	Price2
Buy base currency	Sell base currency	OfferPx	OfferFarAllInRate
Buy terms currency	Sell terms currency	OfferPx	OfferFarAllInRate
Sell base currency	Buy base currency	BidPx	BidFarAllInRate
Sell terms currency	Buy terms currency	BidPx	BidFarAllInRate

Appendix C – Tenors

S - Spot

TD - Today

TN - Tomorrow

SN – Spot Next (T+3)

SW – Spot Week (one week)

2W – 2 Week

3W – 3 Week

1M – 1 Month

2M – 2 Month

3M – 3 Month

4M – 4 Month

5M – 5 Month

6M – 6 Month

7M – 7 Month

8M – 8 Month

9M – 9 Month

10M – 10 Month

11M – 11 Month

1Y – 1 Year

2Y – 2 Year

3Y – 3 Year

4Y – 4 Year

5Y – 5 Year

6Y – 6 Year

7Y – 7 Year

8Y – 8 Year

9Y – 9 Year

10Y – 10 Year

The API also supports an IMM-style format:

IMM1 – Q1 maturity date
IMM2 – Q1 maturity date
IMM3 – Q3 maturity date
IMM4 – Q4 maturity date

IMMH<YY> - Q1 maturity date for the given year. e.g. IMMH12 -> 2012-03-21
IMMM<YY> - Q2 maturity date for the given year. e.g. IMMM12 -> 2012-06-20
IMMU<YY> - Q3 maturity date for the given year. e.g. IMMU12 -> 2012-09-19
IMMZ<YY> - Q4 maturity date for the given year. e.g. IMMZ11 -> 2011-12-21

Appendix D – Fixing Sources

NOTE: For non-USD currency pairs, two fixing sources are used. For these cases, our fixing source name concatenates the two names separated by two pipes (||). For example, the “PTAX||WMR” fixing source for a BRL/JPY NDF will fix USD/BRL with PTAX and USD/JPY with WMR.

Currency Pair	Fixing Source
AUD/BRL	WMR PTAX, D3_0800 PTAX
AUD/CLP	WMR Observado, D3_0800 Observado
AUD/CNY	ECB SAEC, ASF1300 SAEC, WMR SAEC, D3_0800 SAEC
AUD/COP	WMR COCOL03, D3_0800 COCOL03
AUD/IDR	ECB JISDOR, WMR JISDOR, D3_0800 JISDOR, TOK_12PM JISDOR
AUD/INR	ECB RBIB, WMR RBIB, D3_0800 RBIB, TOK_12PM RBIB
AUD/KRW	ECB KFTC18, ASF1600 KFTC30_1400, WMR KFTC18, D3_0800 KFTC18
AUD/MYR	ECB MYRFX, WMR MYRFX, D3_0800 MYRFX
AUD/PHP	ECB PDSPESO, WMR PDSPESO, D3_0800 PDSPESO, TOK_12PM PDSPESO
AUD/TWD	ECB TAIFX1, WMR TAIFX1, D3_0800 TAIFX1
BRL/JPY	PTAX WMR
BRL/NOK	PTAX WMR
BRL/SEK	PTAX WMR, PTAX ECB
CAD/BRL	WMR PTAX
CAD/CLP	WMR Observado, ECB Observado
CAD/CNY	ECB SAEC, WMR SAEC
CAD/COP	ECB COCOL03
CAD/IDR	ECB JISDOR, WMR JISDOR
CAD/INR	ECB RBIB, WMR RBIB
CAD/KRW	ECB KFTC18, WMR KFTC18
CAD/MYR	ECB MYRFX, WMR MYRFX
CAD/PHP	ECB PDSPESO, WMR PDSPESO
CAD/TWD	ECB TAIFX1, WMR TAIFX1
CHF/BRL	WMR PTAX, ECB PTAX
CHF/CLP	WMR Observado, ECB Observado
CHF/CNY	ECB SAEC, WMR SAEC
CHF/COP	WMR COCOL03, ECB COCOL03
CHF/IDR	ECB JISDOR, WMR JISDOR
CHF/INR	ECB RBIB, WMR RBIB
CHF/KRW	ECB KFTC18, WMR KFTC18
CHF/MYR	ECB MYRFX, WMR MYRFX
CHF/PHP	ECB PDSPESO, WMR PDSPESO
CHF/TWD	ECB TAIFX1, WMR TAIFX1
CNY/JPY	SAEC WMR, SAEC ECB, SAEC TKFE_1030, SAEC TKFE_1100
EUR/BRL	WMR PTAX, ECB PTAX
EUR/CLP	WMR Observado, ECB Observado
EUR/CNY	ECB SAEC, WMR SAEC, TKFE_1030 SAEC
EUR/COP	WMR COCOL03, ECB COCOL03
EUR/IDR	ECB JISDOR, TKFE_1200 JISDOR
EUR/INR	ECB RBIB, WMR RBIB, TKFE_1530 RBIB

EUR/KRW	WMR KFTC18, ECB KFTC18, TKFE_1500 KFTC18, TKFE_1400 KFTC18
EUR/MYR	ECB MYRFX, WMR MYRFX, TKFE_1200 MYRFX
EUR/PHP	ECB PDSPESO, WMR PDSPESO, TKFE_1230 PDSPESO
EUR/RUB	ECB EMTA-NDF
EUR/TWD	ECB TAIFX1, WMR TAIFX1, TKFE_1200 TAIFX1
GBP/BRL	WMR PTAX, ECB PTAX
GBP/CLP	WMR Observado, ECB Observado
GBP/CNY	BOE_8 SAEC, WMR SAEC, ECB SAEC, TKFE_1030 SAEC
GBP/COP	WMR COCOL03, ECB COCOL03
GBP/IDR	BOE_8 JISDOR, WMR JISDOR, ECB JISDOR, TKFE_1200 JISDOR
GBP/INR	BOE_8 RBIB, WMR RBIB, ECB RBIB, TKFE_1530 RBIB
GBP/KRW	BOE_8 KFTC18, WMR KFTC18, ECB KFTC18, TKFE_1500 KFTC18
GBP/MYR	BOE_8 MYRFX, WMR MYRFX, ECB MYRFX, TKFE_1200 MYRFX
GBP/PHP	BOE_8 PDSPESO, WMR PDSPESO, ECB PDSPESO, TKFE_1230 PDSPESO
GBP/TWD	BOE_8 TAIFX1, WMR TAIFX1, ECB TAIFX1, TKFE_1200 TAIFX1
HKD/BRL	WMR PTAX
HKD/CLP	WMR Observado
INR/JPY	RBIB WMR, RBIB ECB, RBIB TKFE_1530
JPY/CLP	WMR Observado
JPY/COP	WMR COCOL03, ECB COCOL03
JPY/IDR	WMR JISDOR, ECB JISDOR, TKFE_1200 JISDOR
JPY/KRW	WMR KFTC18, ECB KFTC18, TKFE_1500 KFTC18, TKFE_1400 KFTC30_1400, TKFE_1400 KFTC18
MYR/JPY	MYRFX WMR, MYRFX TKFE_1200
NOK/CLP	WMR Observado
NZD/BRL	WMR PTAX, ECB PTAX
NZD/CLP	WMR Observado
PHP/JPY	PDSPESO WMR, PDSPESO TKFE_1230
SEK/CLP	ECB Observado
SGD/CNY	ABSFIX01 SAEC, D2_1100_SGP SAEC
SGD/IDR	ABSFIX01 JISDOR, D2_1100_SGP JISDOR
SGD/INR	ABSFIX01 RBIB, D2_1100_SGP RBIB, D2_1400_SGP RBIB
SGD/KRW	ABSFIX01 KFTC18, D2_1100_SGP KFTC18
SGD/MYR	ABSFIX01 MYRFX, D2_1100_SGP MYRFX
SGD/PHP	ABSFIX01 PDSPESO, D2_1100_SGP PDSPESO
SGD/TWD	ABSFIX01 TAIFX1, D2_1100_SGP TAIFX1
TWD/JPY	TAIFX1 WMR, TAIFX1 WMR, TAIFX1 TKFE_1200
USD/BRL	PTAX
USD/CLP	Observado
USD/CNY	SAEC
USD/COP	COCOL03
USD/IDR	JISDOR
USD/INR	RBIB
USD/KRW	KFTC18
USD/MYR	MYRFX
USD/PHP	PDSPESO
USD/RUB	EMTA-NDF
USD/TWD	TAIFX1