Confidential



FIX RFQ (Request For Quote) Enabled Forex Pricing and Trading Engine.

January 2015 London

Typical Application Layers

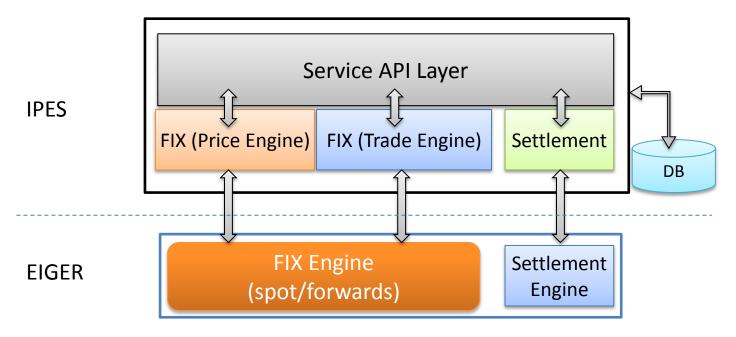


Fig. 1 Typical application layers in connected architecture.

Message Communication Flow

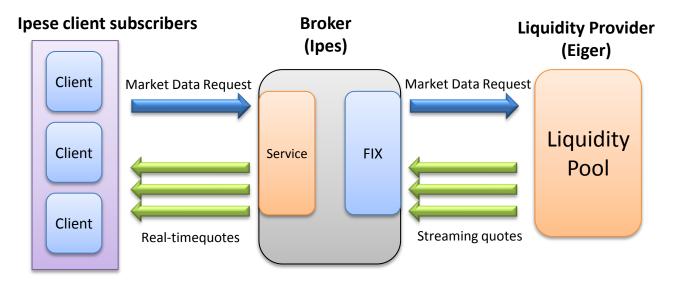


Fig. 2 FIX Market Data Flow between IPES and Eiger

Internal Building Blocks

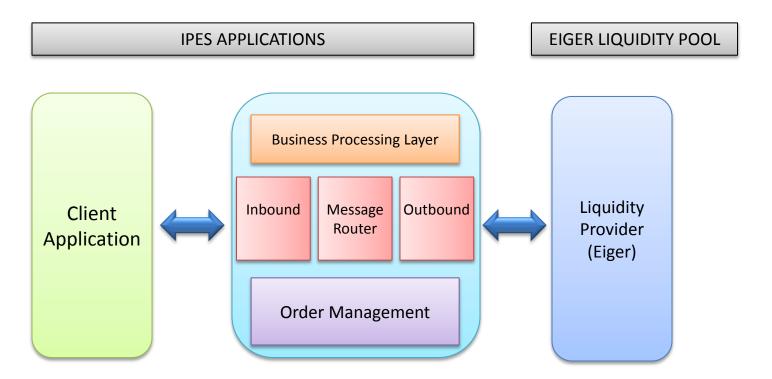


Fig. 3 Building blocks of communication between applications.

FIX Connection Details

Target IP 212.159.113.148

Target Port 1201

Sender Comp ID ipes.apiuat_ORD

Target Comp ID GSL_FX
Account 357647
Heart Beat Interval 30

Maximum Latency 120

Fig. 4 Client (IPES) connection details

Please note:

- 1. Test Environment Connection is not encrypted.
- 2. Live Environment will be secured by SSL, issued by Eiger
- 3. Session is available between 08:00 hrs. and 18:00 hrs. (London Time)
- 4. The price quotes are all indicative purposes only. They may differ from Live environment

Message Flow

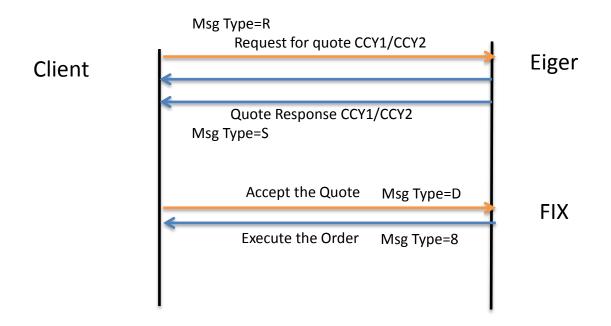


Fig. 5 Two way message flow

FIX Message [Logon and Trade Session]

```
[Logon]
[IPES TO EIGER] <8=FIX.4.4;9=91;35=A;34=1;49=ipes.apiuat_ORD;52=20150116-11:07:35.720;56=GSL_FX;369=0;98=0;108=30;1
41=Y;10=006;
[EIGER TO IPES] <8=FIX.4.4;9=91;35=A;34=1;49=GSL_FX;52=20150116-11:07:35.892;56=ipes.apiuat_ORD;369=1;98=0;108=30;1
41=Y;10=017;
```

[Trade Session Open message] [EIGER TO IPES] <8=FIX.4.4;9=95;35=h;34=2;49=GSL_FX;52=20150116-11:07:35.892;56=ipes.apiuat_ORD;369=1;336=GSLDIRECT;340=2;10=000;

FIX Message [Heartbeat]

Hearbeat messages

[IPES TO EIGER] 8=FIX.4.4;9=77;35=0;34=306;49=ipes.apiuat_ORD;52=20150116-10:17:51.242;56=GSL_FX;369=513;10=129;

[EIGER TO IPES] 8=FIX.4.4;9=77;35=0;34=514;49=GSL_FX;52=20150116-10:17:51.242;56=ipes.apiuat_ORD;369=305;10=129;

FIX Message [Price Quote Request and Streaming Responses]

[Quote Request from IPES to Eiger]

[IPES TO EIGER] 8=FIX.4.4;9=165;35=R;34=310;49=ipes.apiuat_ORD;52=20150116-10:19:25.123;56=GSL_FX;369=517;55=GBP/U SD;131=635570003650141795;146=1;303=102;38=100;63=B;64=20150130;15=GBP;1=357647;10=215;

[Quote Messages from Eiger To IPES]

[EIGER TO IPES] <8=FIX.4.4;9=223;35=S;34=518;49=GSL_FX;52=20150116-10:19:25.2 63;56=ipes.apiuat_ORD;369=310;55=GBP/USD;62=20150116-10:22:29.585;63=B;64=20150130;117=1:10918696;131=635570003650141795;1 32=1.521416;133=1.52162;188=1.52154;190=1.52174;631=0;10=222;>

[EIGER TO IPES] <8=FIX.4.4;9=223;35=S;34=519;49=GSL_FX;52=20150116-10:19:27.2 29;56=ipes.apiuat_ORD;369=310;55=GBP/USD;62=20150116-10:22:31.585;63=B;64=20150130;117=2:10918696;131=635570003650141795;1 32=1.521446;133=1.52175;188=1.52157;190=1.52187;631=0;10=235;>

[EIGER TO IPES] <8=FIX.4.4;9=77;35=0;34=313;49=ipes.apiuat_ORD;52=20150116-10:20:56.898;56=GSL_FX;369=550;10=144; 20150116 10:20:58.894 : (Recvd) Market Quote for symbol: GBP/USD<8=FIX.4.4;9=224;35=S;34=551;49=GSL_FX;52=20150116-10:20:58.8 94;56=ipes.apiuat_ORD;369=313;55=GBP/USD;62=20150116-10:24:03.257;63=B;64=20150130;117=34:10918696;131=635570003650141795; 132=1.521536;133=1.52174;188=1.52166;190=1.52186;631=0;10=031;>

[EIGER TO IPES] <8=FIX.4.4;9=224;35=S;34=552;49=GSL_FX;52=20150116-10:21:04.3 86;56=ipes.apiuat_ORD;369=313;55=GBP/USD;62=20150116-10:24:08.742;63=B;64=20150130;117=35:10918696;131=635570003650141795; 132=1.521526;133=1.52173;188=1.52165;190=1.52185;631=0;10=021;>

[EIGER TO IPES] <8=FIX.4.4;9=224;35=S;34=553;49=GSL_FX;52=20150116-10:21:06.382;56=ipes.apiuat_ORD;369=313;55=GBP/USD; 62=20150116-

10:24:10.745;63=B;64=20150130;117=36:10918696;131=635570003650141795;132=1.521536;133=1.52174;188=1.52166;190=1.52186;631=0;10=02 1;>

FIX Message [Quote Cancellation Request]

[Quote Cancellation Confirmation from Eiger To IPES]

[IPES TO EIGER] <8=FIX.4.4;9=156;35=Z;34=321;49=ipes.apiuat_ORD;52=20150116-10:24:03.427;56=GSL_FX;369=565;58=Cancel quote 635570006380921795;

117=0;131=635570006380921795;298=1;303=102;10=007;

[EIGER TO IPES] <8=FIX.4.4;9=158;35=Z;34=566;49=GSL_FX;52=20150116-10:24:03.474;56=ipes.apiuat_ORD;369=321;58=Quote Cancelled for RequestID 6355700 06380921795;131=635570006380921795;298=1;10=144;>

FIX Message [New Order Request and Trade Execution Report]

[EIGER TO IPES: Acknowledgement] <8=FIX.4.4;9=202;35=8;34=55;49=GSL_FX;52=20150116-10:59:05.496;56=ipes.apiuat_ORD;369=13;6=0;11=F63 5570029517611596;14=0;17=0;31=0;32=0;37=0;39=1;44=0;54=1;55=GBP/USD;60=20150116-10:59:39.833;64=20150116;150=0;151=0;10=251;>

[EIGER TO IPES: Filled] 8=FIX.4.4;9=262;35=8;34=56;49=GSL_FX;52=20150116-10:59:05.621;56=ipes.apiuat_ORD;369=13;6=1.520275;11=F635570029517611596;14=100.00;17=GFX:RBS:10918905;31=1.520275;32=100.00;37=2:10918905;39=2;44=1.520275;54=1;55=GBP/USD;60=20150116-10:59:39.842;64=20150129;150=2;151=100.00;10=134;

FIX Message [Logout]

[Logout]

 $\hbox{[IPES TO EIGER]} < 8 = \hbox{FIX.4.4}; 9 = 77; 35 = 5; 34 = 335; 49 = \hbox{ipes.apiuat_ORD}; 52 = 20150116 - 10:30:38.543; 56 = \hbox{GSL_FX}; 369 = 582; 10 = 146; > \\ \hbox{[EIGER TO IPES]} < 8 = \hbox{FIX.4.4}; 9 = 77; 35 = 5; 34 = 583; 49 = \hbox{GSL_FX}; 52 = 20150116 - 10:30:38.543; 56 = \hbox{ipes.apiuat_ORD}; 369 = 335; 10 = 147; > \\ \hbox{[EIGER TO IPES]} < 8 = \hbox{FIX.4.4}; 9 = 77; 35 = 5; 34 = 583; 49 = \hbox{GSL_FX}; 52 = 20150116 - 10:30:38.543; 56 = \hbox{ipes.apiuat_ORD}; 369 = 335; 10 = 147; > \\ \hbox{[EIGER TO IPES]} < 8 = \hbox{FIX.4.4}; 9 = 77; 35 = 5; 34 = 583; 49 = \hbox{GSL_FX}; 52 = 20150116 - 10:30:38.543; 56 = \hbox{ipes.apiuat_ORD}; 369 = 335; 10 = 147; > \\ \hbox{[EIGER TO IPES]} < 8 = \hbox{FIX.4.4}; 9 = 77; 35 = 5; 34 = 583; 49 = \hbox{GSL_FX}; 52 = 20150116 - 10:30:38.543; 56 = \hbox{ipes.apiuat_ORD}; 369 = 335; 10 = 147; > \\ \hbox{[EIGER TO IPES]} < 8 = \hbox{FIX.4.4}; 9 = 77; 35 = 5; 34 = 583; 49 = \hbox{GSL_FX}; 52 = 20150116 - 10:30:38.543; 56 = \hbox{ipes.apiuat_ORD}; 369 = 335; 10 = 147; > \\ \hbox{[EIGER TO IPES]} < 8 = \hbox{FIX.4.4}; 9 = 77; 35 = 5; 34 = 583; 49 = \hbox{GSL_FX}; 52 = 20150116 - 10:30:38.543; 56 = \hbox{ipes.apiuat_ORD}; 369 = 335; 10 = 147; > \\ \hbox{[EIGER TO IPES]} < 8 = \hbox{FIX.4.4}; 9 = 77; 35 = 5; 34 = 335; 49 = \hbox{ipes.apiuat_ORD}; 369 = 355; 369 =$

FIX Message [Security]

Client Certificate: Clients will require a P12 certificate to establish a FIX Session with Eiger. Clients may need to transform the P12 certificate in to a different format, e.g. PEM, depending on their FIX engine implementation

Client Certification: A short certification test will need to be completed and signed off by Eiger, before client sessions are activated for live trading.

Firewall: Eiger will allow to connect from authorised IP address of the client.

FIX Message [Supported Message Types]

Туре	Direction Client -> Eiger	MsgType	Notes
TradingSessionStatusRequest	->	g	
TradingSessionStatus	<-	h	
BusinessMessageReject	<-	J	
QuoteRequest	->	R	
QuoteRequestReject	<-	AG	
QuoteResponse	<-	AJ	Indicates that the RFQ has been routed for Dealer Intervention.
Quote	<-	S	
QuoteCancel	<-/->	Z	Eiger can send this to withdraw specific RFQ quotes.
NewOrderSingle	->	D	
ExecutionReport	<-	8	Execution reports may also be sent for new order receipts and reject orders. The typical order flows for this is an Execution Report with a New status, followed either by an Execution Report with a FILL or REJECT status. RFQ supports FoK only, no partial fills.

FIX Message [Trade Session Status]

TAG	FIELD NAME	REQ	DESCRIPTION
	Standard Header	Υ	MsgType=h
335	TradSesReqId	N	
325	UnsolicitedIndicator	N	'Y' if message is sent unsolicited
336	TradingSessionID	Υ	Unique ID of the trading session GSLDIRECT
340	TradSesStatus	Y	0 = Unknown 2 = Open 3 = Closed
	Standard Trailer	Υ	

FIX Message [Business Message Reject]

TAG	FIELD NAME	REQ	DESCRIPTION
	Standard Header	Y	MsgType=j
372	RefMsgType	Υ	The message type of the FIX message that caused the reject.
45	RefSeqNum	Υ	The referenced message sequence number.
380	BusinessRejectReason	Y	The reason for reject 0: Other 4: Application Unavailable 5: Conditionally Required Field Missing 6: Not authorised
379	BusinessRejectRefID	N	<u>CIOrdID</u> of the message that generated the reject, if available.
58	Text	N	Additional text if available.
	Standard Trailer	Y	

FIX Message [Quote Request]

TAG	FIELD NAME	REQ	DESCRIPTION
	Standard Header	Y	MsgType= R
131	QuoteReqID	Υ	Must be unique across all subscription requests.
55	Symbol	Y	The currency pair symbol in the format <ccy1 ccy2=""></ccy1>
146	NoRelatedSym	Y	Number of symbols. Must be 1.
38	OrderQty	Y	The notional amount requested. May be in base or terms as identified by the Currency field.
63	SettlType	Υ	Indicates the settlement period. If unspecified, SPOT is assumed. Valid values are: 0 = SPOT B = Broken Date (value defined by SettlDate)
15	Currency	N	Is used in context of the Symbol. If unspecified <ccy1> is assumed. If specified, it must be one of <ccy1> or <ccy2>. The value will determine whether the OrderQty is in base or terms amount.</ccy2></ccy1></ccy1>
64	SettlDate	N	If SettlType is B, then this should be populated with the date in the format yyyymmdd.
303	QuoteRequestType	Y	If the Quote Request is based on an underlying RFQ request. Only possible value allowed is: 102 = RFQ message
	Standard Trailer	Y	

FIX Message [Quote Request Reject]

TAG	FIELD NAME	REQ	DESCRIPTION
	Standard Header	Y	MsgType= AG
131	QuoteReqID	Υ	The request id from the original QuoteRequest message.
658	QuoteRequestRejectReason	Υ	Reason for the reject: 99 = Other
58	Text	N	Details of the reason for rejection. Text
	Standard Trailer	Y	

FIX Message [Quote Cancel]

The **QuoteCancel** message is sent to Eiger to unsubscribe from a stream of rates.

TAG	FIELD NAME	REQ	DESCRIPTION
	Standard Header	Υ	MsgType= Z
131	QuoteReqID	Υ	The request id from the original QuoteRequest message.
117	QuoteID	Υ	Always set to '0'.
55	Symbol	N	The currency pair symbol in the format <ccy1>/<ccy2></ccy2></ccy1>
298	QuoteCancelType	Υ	Should be 1 (1 = Cancel for symbol)
303	QuoteRequestType	Υ	Possible value : 102
58	Text	N	Details of the reason for the cancellation.
	Standard Trailer	Υ	

The **QuoteCancel** message is sent to Client to inform that the quote is expired or no longer available to trade.

TAG	FIELD NAME	REQ	DESCRIPTION
	Standard Header	Υ	MsgType= Z
131	QuoteReqID	Υ	The request id from the original QuoteRequest message.
117	QuoteID	Υ	
55	Symbol	Υ	
298	QuoteCancelType	Υ	Should be 1 (1 = Cancel for symbol)
58	Text	N	
	Standard Trailer	Υ	

FIX Message [Quote]

The **rates** are sent from Eiger to the client as Quote message.

TAG	FIELD NAME	REQ	DESCRIPTION
	Standard Header	Υ	MsgType= S
131	QuoteReqID	Υ	The unique identifier for the original quote request.
117	QuoteID	Υ	The Eiger identifier for this rate.
55	Symbol	Υ	The currency pair symbol.
63	SettlType	N	Indicates the settlement period. If unspecified SPOT is assumed. Valid values are $0 = SPOT$ B = Broken Date
64	SettlDate	Υ	The value date.
75	TradeDate	Υ	The applicable trade date for this rate.
132	BidPx	Υ	Bid price in the rate.
631	MidPx	N	Mid price in the rate. (Optionally supplied)
133	OfferPx	Υ	Offer price in the rate.
276	QuoteCondition	Υ	A : Tradable quote B : Indicative only (non tradable)
188	BidSpotRate	N	Bid spot price.
190	OfferSpotRate	N	Offer spot price.
189	BidForwardPoints	N	Bid forward points for forward outrights.
191	OfferForwardPoints	N	Offer forward points for forward outrights.
	Standard Trailer	Υ	

Many Thanks

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