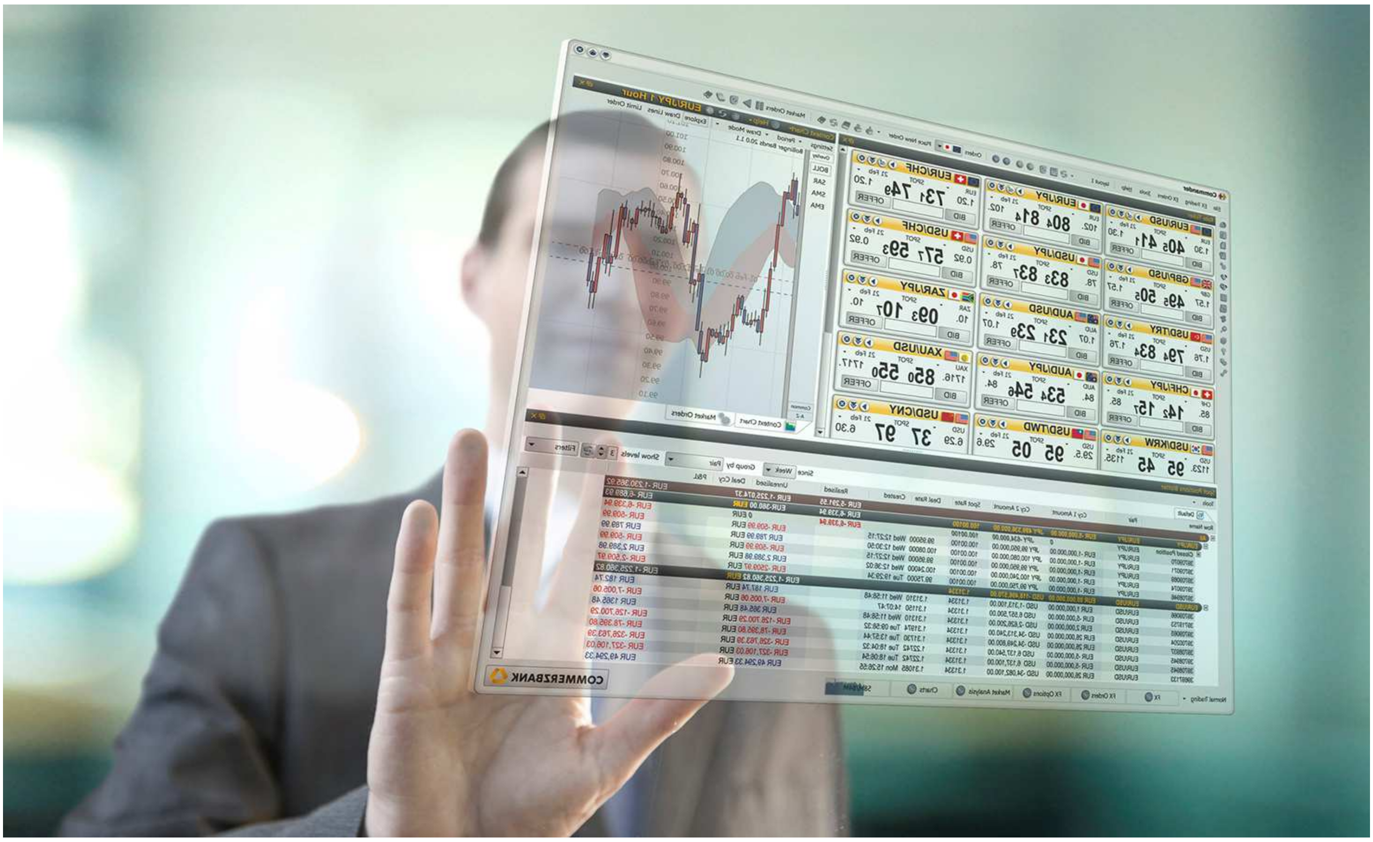
COMMERZBANK



Commander FIX DropCopy

Rules of Engagement

Corporates and Markets

14 Jan 2014 | Version 1.6

Contents

1 Introduction

Purpose

This document provides a description of how Commerzbank's Commander eFX trading platform uses the FIX Protocol for post trade notifications and how a client/vendor can connect for the purpose of electronic foreign exchange trading.

It is intended for use by business and technical managers implementing or adapting a FIX interface to Commander via FIX.

The FIX Protocol

The Financial Information eXchange (FIX) protocol is an industry standard messaging definition for electronic communication of financial data. For more information, documents and tools please refer to the FIX protocol website at http://www.fixprotocol.org

In order to connect to Commander via FIX, client and vendor applications will be required to support FIX 4.4. This document outlines the tags supported by Commander and the value definitions. Additional tags will be ignored and rejected.

FIX Onboarding

We have a dedicated FIX onboarding team who will manage the onboarding process through to go live.

All new connections are required to be certified by a conformance test, where both positive and negative scenarios are tested to ensure they are handled appropriately by the client/vendor application. If changes are made to your software post-golive then you may need to recertify to ensure no issues are introduced.

Connectivity

An SSL (v.3 or later) internet connection should be used for the purposes of testing on the Demo environment.

We support cross connect in several colocation datacentres, otherwise BT Radianz lines should be used for connectivity in Production. An SSL internet connection can be provisioned as well.

Connections are identified using SenderCompID (tag 49) and TargetCompID (tag 56). The values are agreed during the onboarding process but typically follow the format:

- Confirmation session: COBAFX <> CLIENT-STP

Support

Once your connection is live it will be supported by our dedicated support teams ensuring your trading experience is as efficient and responsive as you need. Contact us 24 hours a day, if you would like further assistance or have any queries:

Email us esupport@commerzbank.com

Or call us

Location	Phone number	Service hours
Singapore	+65 (0)6311 0175	22:30–06:30 GMT
UK	+44 (0)207 475 4500	06:30–17:00 GMT
Germany	+49 (0)69 136 84500	06:30–17:00 GMT
US	+1 (0)866 672 8355	17:00–22:30 GMT

System Availability

Please reset sequence numbers during the weekend system downtime.

2 Products

The following products are supported via FIX:

- Spot
- Forward
- Swap

We support over 500 currency pairs, including inverses, across over 50 currencies. Selected currencies are NDF only or Deliverable only. We support uneven swaps. We also support market orders for spot trading. Please discuss your requirements with us during onboarding.

Further products may be available via our Commander platform; more information may be found at http://commanderfx.com

Tenors

The following tenors are supported:

ON	2M	10M
TN	3M	11M
SP	4M	1Y
SN	5M	15M
1W	6M	18M
2W	7M	21M
3W	8M	2Y
1M	9M	

Currency

The Currency (tag 15) of a trade message refers to the OrderQty (tag 38) and may be either the base (CCY1) or terms (CCY2) currency of the currency pair in Symbol (tag 55).

Please note that the Side (tag 54) always refers to the base currency.

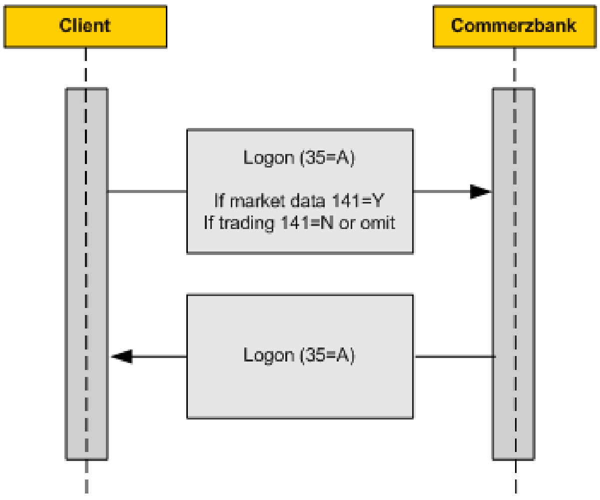
Example usage:

Tag	Buy EUR	Sell USD	Sell EUR	Buy USD
55	EUR/USD			
54	1 (Buy EUR)		2 (Sell EUR)	
15	EUR	USD	EUR	USD
38	1m (EUR)	1m (USD)	1m (EUR)	1m (USD)

3 Message Flows

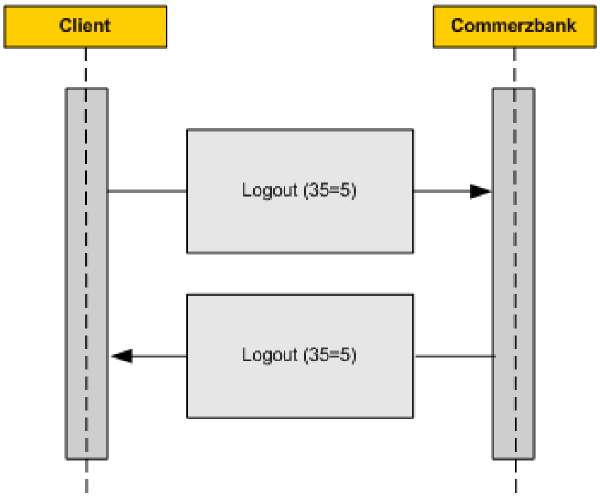
Logon

The logon sequence is client initiated.



Logout

It is recommended to send a Logout when intentionally disconnecting to assist in troubleshooting. Please specify a description in the Text field (tag 58). If you receive a Logout from Commerzbank you are advised to attempt reconnection.

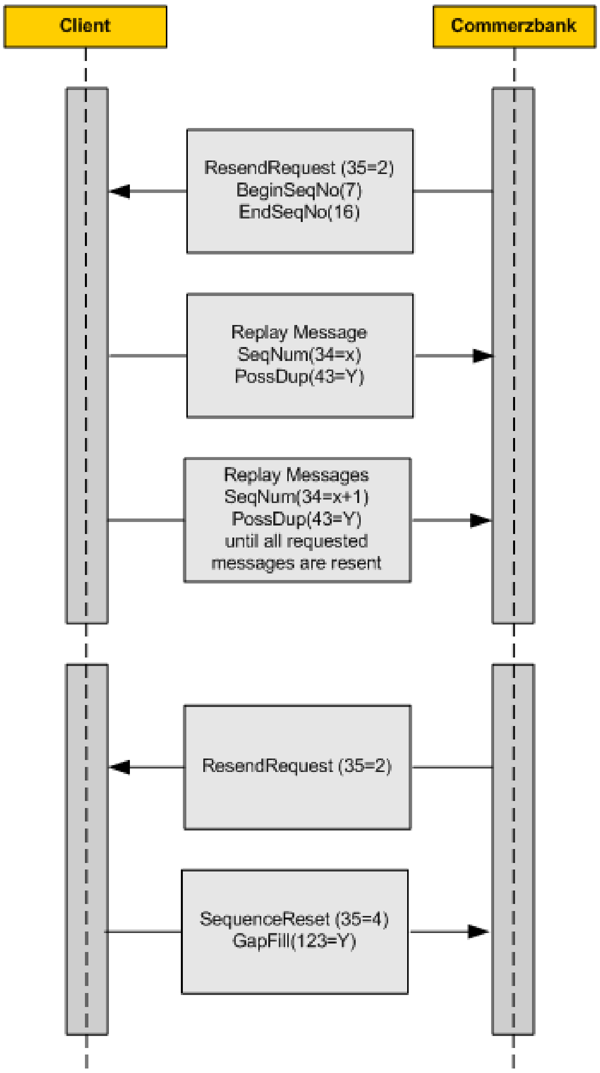


Resend requests

It is important the all FIX sessions can handle Gap Fills as per the FIX protocol, to facilitate recovery where possible during a disconnection or missed message.

Standard behaviour if you receive a ResendRequest is:

- Resend the requested messages in order with the original sequence numbers and PossDupFlag (tag 43) set to Y.
- Where appropriate, send a SequenceReset (message type 4) with GapFillFlag (tag 123) set to Y, to replace the retransmission of unnecessary messages, e.g. Heartbeats.



Please note that flow can be in either direction.

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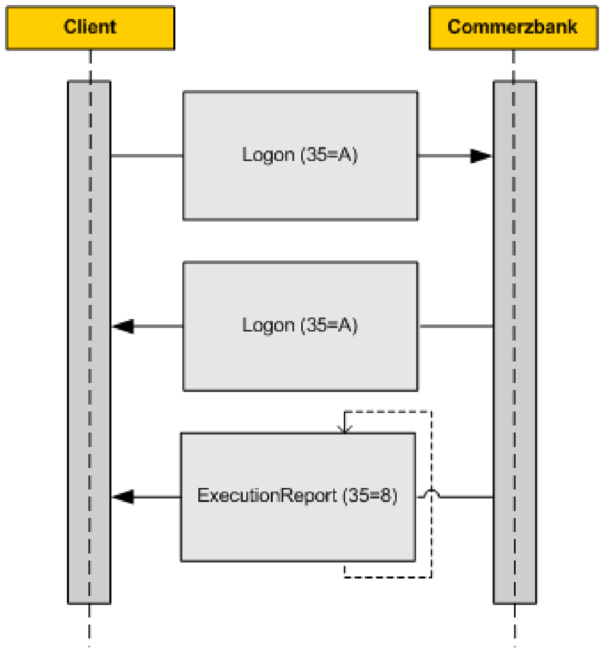
Once connected you will receive any trades since you last connected as ExecutionReports. Subsequently you will receive them as the trades are executed, at near-real time.



EMIR

Custom tags have been added to our specification to allow you to provide and receive UTI information where appropriate.

These fields are:

- UTIPrefix (20008)
- UTI (20009)
- UTI2 (20010)
- TradingPurposeFinancingActivity (20019)
- OrderCapacity (528)

We currently do not populate or provide the following tags but we may do in the future.

- ExecutionVenue (20011)
- ExecutionVenueType (20012)
- ReportingParty (20013)
- TradeRespository (20014)
- ClearingExemption (20015)
- ClearingVenue (20016)
- ClearingIndicator (20017)
- CounterpartyLEI (20018)

4 FIX Message Definitions

ExecutionReport (Message type 8)

Name	Tag	Required	Description
OrderID	37	Y	Unique identifier for order
ClOrdID	11	N	Original identifier supplied by client
ExecID	17	Y	Unique identifier for this execution
ExecType	150	Y	‘F’=Trade (fill), ‘G’=Trade Correct, ‘H’=Trade Cancel
OrdStatus	39	Y	‘2’=Filled, ‘4’=Cancelled
Account	1	N	Account
DeliverToCompID	128	N	Prime brokerage client identifier
SettlType	63	N	‘0’=Regular
SettlType2	5459	N	Tenor of far leg
SettlDate	64	N	Value date, YYYYMMDD. For a swap refers to the near leg
SettlDate2	193	N	Value date for far leg of the swap, YYYYMMDD
Symbol	55	Y	Currency pair (CCY/CCY)
Side	54	N	‘1’=Buy, ‘2’=Sell
OrderQty	38	Y	Size
OrderQty2	192	N	Size for far leg of a swap
OrdType	40	Y	‘D’=PreviouslyQuoted, ‘G’=ForexSwap
Price	44	Y	Dealt price of the fill
Price2	640	N	Dealt price of the far leg of a swap
Currency	15	Y	Currency of OrderQty
TimeInForce	59	Y	‘4’=Fill or kill
LastQty	32	Y	‘0’
LastQty2	6808	N	Quantity of this fill for the far leg of a swap
LastPx	31	Y	Price of this fill
LastSpotRate	194	Y	Spot rate of this fill
LastFwdPoints	195	N	Forward points for a forward or swap with a forward near leg
LastFwdPoints2	641	N	Forward points for far leg of a swap
LeavesQty	151	Y	Equal to OrderQty on New, or ‘0’ on Filled or Rejected
CumQty	14	Y	‘0’ on New or Rejected, equal to OrderQty if Filled
AvgPx	6	Y	Equal to LastPx
TransactTime	60	Y	Timestamp in UTC

Name	Tag	Required	Description
TradeDate	75	Y	Date of the trade in YYYYMMDD format
FixingDate	6203	N	Fixing date for an NDF, YYYYMMDD
FixingRef	20000	N	Fixing reference for an NDF
Text	58	N	Description of execution or rejection reason
HandleInst	21	N	‘1’=Automated, ‘3’=Manual
LegalEntityIdentifier	20008	N	Standard legal entity identifier (LEI) of UTI or USI generating party
UTI	20009	N	UTI or USI. For swap refers to near leg
UTI2	20010	N	UTI or USI for far leg of swap
ExecutionVenue	20011	N	LEI, MIC or SEF
ExecutionVenueType	20012	N	‘1’=SEF, ‘2’=Off Facility
ReportingParty	20013	N	Reporting party for continuation data reporting
TradeRepository	20014	N	Trade repository where trade is sent
ClearingExemption	20015	N	‘Y’ or ‘N’
ClearingVenue	20016	N	LEI of clearing house
ClearingIndicator	20017	N	‘Y’ or ‘N’
CounterpartyLEI	20018	N	Counterparty LEI
TradingPurposeFinancingActivity	20019	N	‘Y’=Treasury financing, ‘N’=Commercial. Indicator of Trading Financing Activity
OrderCapacity	528	N	‘A’=Agency, ‘P’=Principal
APITrading	7420	N	‘Y’=Traded electronically, ‘N’=Not traded electronically

Example ExecutionReport message for confirmation of a successful spot trade:

```
8=FIX.4.4|9=423|35=8|34=2|56=FIXLDN1|49=COBAFX|52=20110304-
12:39:55|37=31384466|17=31384466|54=2|150=F|39=2|11=40128221_0_1|1=TESTFIX|55=EUR/USD|60=
20110304-
12:36:59|151=0|14=100000|32=100000|6=1.3971|31=1.3971|194=1.3971|40=D|38=100000|44=1.3971
|15=EUR|64=20110308|63=0|59=4|75=20110304|10=089
```

Example ExecutionReport message for confirmation of a successful forward trade:

```
8=FIX.4.4|9=439|35=8|34=3|56=FIXLDN1|49=COBAFX|52=20110304-
12:39:55|37=31384467|17=31384467|54=2|150=F|39=2|11=40128222_0_1|1=TESTFIX|55=EUR/JPY|60=
20110304-12:37:13|151=0|14=10000|32=10000|6=115.3802|31=115.3802|194=115.536|195=-
15.58|40=D|38=10000|44=115.3802|15=EUR|64=20110509|63=2M|59=4|75=20110304|10=115
```

Example ExecutionReport message for confirmation of a successful swap trade:

```
8=FIX.4.4|9=493|35=8|34=4|56=FIXLDN1|49=COBAFX|52=20110304-
12:39:55|37=31384468|17=31384468|54=1|150=F|39=2|11=40128226_0_1|1=TESTFIX|55=GBP/USD|60=
20110304-12:37:30|151=0|14=1000|32=1000|6808=1000|6=1.62734|31=1.62734|194=1.62763|195=-
2.9|641=-
49.7|40=G|38=1000|192=1000|44=1.62734|640=1.62266|15=GBP|64=20110408|193=20110908|63=1M|5
9=4|75=20110304|10=092
```

Example ExecutionReport message including UTI fields:

```
8=FIX.4.4|9=414|35=8|34=16|49=COBAFX|52=20140116-
16:03:36.909|56=FIXLDN1|1=TESTFIX|6=1.3607|11=ID16160336781|14=2000|15=EUR|17=13689|31=1.
3607|32=2000|37=13689|38=2000|39=2|40=D|44=1.3607|54=1|55=EUR/USD|59=4|60=20140116-
16:03:36|63=0|64=20140120|150=F|151=0|194=1.3607|20008=1234567890|20009=***UTI***|20011=E
xecutionVenue|20013=ReportingParty|20014=TransactionRepo|20015=Y|20016=ClearingVenue|2001
7=Y|20018=CounterpartyLEI|10=120
```

5 Standard FIX Message Definitions

All standard FIX messages can be found in the FIX Protocol documentation at http://fixprotocol.org

Logon (Message type A)

Name	Tag	Required	Description
EncryptMethod	98	Y	‘0’=None/Other
HeartBtInt	108	Y	Heartbeat interval in seconds. 60 recommended
ResetSeqNumFlag	141	N	‘Y’=Reset sequence numbers. Default is ‘N’

An example of a FIX logon message:

```
8=FIX.4.4|9=74|35=A|49=FIXCLIENT|56=COBA|34=1|52=20131026-18:22:15|108=30|98=0|10=106
```

Logout (Message type 5)

Name	Tag	Required	Description
Text	58	N	Description of logout reason

An example of a FIX logout message:

```
8=FIX.4.4|9=57|35=5|49=FIXCLIENT|56=COBA|34=51|52=20131026-18:46:40|10=082
```

ResendRequest (Message type 2)

Name	Tag	Required	Description
BeginSeqNo	7	Y	Sequence number of first message to resend
EndSeqNo	16	Y	Sequence number of last message to resend, or ‘0’ (zero) for all subsequent messages

SequenceReset (Message type 4)

Name	Tag	Required	Description
GapFillFlag	123	N	‘Y’=Gap Fill message, ‘N’=Sequence reset
EndSeqNo	16	Y	Sequence number of last message to resend, or ‘0’ (zero) for all subsequent messages

TestRequest (Message type 1)

Name	Tag	Required	Description
TestReqID	112	Y	Unique identifier

6 Conformance Tests

Session

Test Name	Required	Expected Behaviour
Login	Y	Successful login using the Logon message and the provided Sender and Target Comp IDs. Reset Sequence numbers (tag 141) set to Y for market data session, and not set on orders session
Heartbeat	Y	Heartbeat sent and received at agreed interval
TestRequest	Y	Test Requests responded to with Heartbeat containing the relevant TestRequestID
Logout	Y	Logout sent on intentional disconnection Logout responded to with a Logout
Connection resilience	N	Ensure that the FIX sessions are connected for a continuous 24 hour period
Automatic reconnection	Y	Sessions retry reconnecting on a disconnection.
Sequence number mismatch	Y	Client sequence numbers are too low, connection will not connect, alerting should be raised on the client software Client sequence numbers are too high, message recovery with appropriate resends and gap fills, and session resumes normal behaviour Commander sequence numbers are too low, connection should be disconnected, alerting should be raised on the client software Commander sequence numbers are too high, message recovery with appropriate resends and gap fills, and session resumes normal behaviour

Executions

Test Name	Required	Expected Behaviour
Confirm Spot Buy Order in Base Currency	Y	Clients confirms a spot buy order in a quote’s base currency.
Confirm Spot Sell Order in Base Currency	Y	Clients confirms a spot sell order in a quote’s base currency.
Confirm Forward Buy Order in Base Currency	N	Clients confirms a forward buy order in a quote’s base currency.
Confirm Forward Sell Order in Base Currency	N	Clients confirms a forward sell order in a quote’s base currency.
Confirm Swap Buy Order in Base Currency	N	Clients confirms a swap buy order in a quote’s base currency.
Confirm Swap Sell Order in Base Currency	N	Clients confirms a swap sell order in a quote’s base currency.