Plaza-2 gateway for Securities and FX markets

build
26.12.2016

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Introduction

Purpose of the document

The purpose of this document is to provide users with information which can be necessary in designing and developing software for accessing the securities market and FX market using the Plaza-2 SPECTRA gateway.

The document overviews some peculiarities of the gateway in accessing the securities and FX markets. Also, the document contains details of the translated data (including replication streams and tables), and list of controlling commands.

Please note that information on the main operational principles of the gateway, general overview of SPECTRA, as well as the software configuration, installation and configuration details are described on **p2gate_en.pdf** [ftp://ftp.moex.com/pub/FORTS/Plaza2/docs/]. The rules for working with CGate API can be found on **cgate_en.pdf** [ftp://ftp.moex.com/pub/FORTS/Plaza2/docs/].

Target audience

The document is targeted at business analysts, system architects and developers, who take part in programming and developing software for accessing the Moscow Exchange markets.

Please note that this way of accessing is mostly designed for users who are already familiar with the Plaza-2 SPECTRA gateway. For all the less experienced users, it is strictly recommended to contact our technical support team in order to obtain the latest and up-to-date information about the markets accessing protocols specifications and peculiarities.

Gate usage specifics

Stream MCXCC_USERDATA_REPL specifics

It is not allowed to open more than one listener of the stream MCXCC_USERDATA_REPL at once. Opening another listener at the same time will force the previously opened listener to close.

It is not allowed to specify the opening mode 'snapshot' for this stream. All other opening modes will lead to the same result: once the stream has opened, you will obtain the current data along with the further changes in tables. Note that the parameters 'lifenum', 'rev.TABLE_NAME' and 'replstate' are not used.

When creating a new subscriber, it is necessary to transfer login and password. Example: 'p2repl://MCXCC_USERDATA_REPL;repl_params=\"login=MD9002600002;pwd=111;\'

Commands

When creating a new publisher, in order to send commands to the FX market it is necessary to specify 'NAME' as 'ASTSCUR_SRV' and 'category' as 'ASTSCUR_MSG'.

The return message type is 24 for all commands.

Name	Type	Description
ErrorCode	i4	Error code
ErrorMessage	c255	Error message

You are allowed to open only a single publisher at once for sending orders. Also, it is necessary to send commands 'LOGIN_ASTS/LOGOUT_ASTS' to connect/disconnect to and from FX market. For commands 'LOGIN_ASTS/LOGOUT_ASTS', the reply message type is '100', the message structure is alike to that of the message type '24'.

When the message limit is exceeded, you will receive the type '99' message.

Name	Type	Description
amountMsgInQueue	i4	Number of user's messages.
penaltyRemainsFor	i4	A period of rejection in milliseconds; after this specified period, the system will stop rejecting user's messages.
ErrorMessage	c255	Error message
ErrorCode	i4	Error code

Replication scheme SPOT

Stream MCXSPOT_AGGR_REPL - quotes for instruments

Data scheme

Tables:

- ORDERBOOK - Orderbook

Table ORDERBOOK: Orderbook

Table 1. Fields of table ORDERBOOK

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
SECBOARD	c4	Board
SECCODE	c12	Instrument
BUYSELL	c1	Buy/Sell
PRICE	d16.6	Price

Field	Type	Description
QUANTITY	i8	Lots
YIELD	d9.2	Yield
ACTIVATIONTIME	t	Order activation time
REPOVALUE	d16.2	Repo value

Stream MCXSPOT_MDCOMMON_REPL - general information on instruments

Data scheme

Tables:

- COMMON - Financial statistics

Table COMMON: Financial statistics

Table 2. Fields of table COMMON

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
SECBOARD	c4	Board
SECCODE	c12	Instrument code
BID	d16.6	Bid
BIDDEPTH	i8	Bid depth
BIDDEPTHT	i8	Total bid
NUMBIDS	i4	Number of bids
OFFER	d16.6	Offer
OFFERDEPTH	i8	Offer depth
OFFERDEPTHT	i8	Total offer
NUMOFFERS	i4	Number of offers
HIGH	d16.6	Maximum
LOW	d16.6	Minimum
LAST	d16.6	Last
CHANGE	d16.6	Price change to the last price of the previous day
QTY	i8	Lots in the last trade
TIME	t	Time of the last trade
VOLTODAY	i8	Amount, today
VALTODAY	i8	Volume, today
VALUE	d16.2	Amount of the last trade
WAPRICE	d16.6	Pricing
HIGHBID	d16.6	Best bid
LOWOFFER	d16.6	Best offer
NUMTRADES	i4	Number of trades, today
YIELDATWAPRICE	d9.2	Yield at pricing
PRICEMINUSPREVWAPRICE	d16.6	Price change to the previous day pricing
CLOSEPRICE	d16.6	Post-trading price
CLOSEYIELD	d9.2	Yield at post-trading period price
LASTBID	d16.6	Last bid of the session
LASTOFFER	d16.6	Last offer of the session
LASTSETTLECODE	c12	Settlement code of the last trade

Field	Type	Description
MARKETPRICE	d16.6	Market price of the previous day
MARKETPRICETODAY	d16.6	Market price
DURATION	d7.2	Duration
SETTLECODE	c12	Settlement code
LOPENPRICE	d16.6	Opening price
LCURRENTPRICE	d16.6	Current price
LCLOSEPRICE	d16.6	Closing price
MARKETPRICE2	d16.6	Market price 2
ADMITTEDQUOTE	d16.6	Admitted quote
OPENPERIODPRICE	d16.6	Pre-trading price
OPEN	d16.6	Open
CLOSING_AUCTION_PRICE	d16.6	CA price
CLOSING_AUCTION_VOLUME	i8	CA volume
DPVALINDICATORBUY	c1	Bid flag (dark pools)
DPVALINDICATORSELL	c1	Sell flag (dark pools)
SETTLEDATE	t	Settlement date

Stream MCXSPOT_INFO_REPL - referense information

Data scheme

Tables:

- BOARDS - Trading boards
- BCMESSAGES - Messages
- TRDTIMETYPES - Trading schedule event types
- SECURITIES - Financial instruments
- CURRENCY - Currencies directory
- TRADETIME - Trading schedule
- SETTLECODES - Settlement codes
- TESYSTIME - System time of the trading server
- MARKETS - Markets
- SEC_SETTLECODE - Settlement codes for instruments
- AUCTSTATS - Auction stats
- DPAUCTIONS - Dark pool auctions
- INDEXES - Indexes
- STATS - Parameters of the trading system
- TRDTIMEGROUPS - Events groups

Table BOARDS: Trading boards

Table 3. Fields of table BOARDS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
BOARDID	c4	Board code
BOARDNAME	c30	Board
STATUS	c1	Status

Field	Type	Description
MARKETID	c4	Market
LATNAME	c30	Latin name

Table BCMESSAGES: Messages

Table 4. Fields of table BCMESSAGES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
URGENCY	c1	Urgency
FROMUSER	c12	Sender
MSGTIME	c8	Time
MSGTEXT	c256	Text

Table TRDTIMETYPES: Trading schedule event types

Table 5. Fields of table TRDTIMETYPES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
TYPE	c1	Type of the event
DESCRIPTION	c50	Russian Description
GROUPTYPE	c1	Group
LAT_DESCRIPTION	c50	English Description

Table SECURITIES: Financial instruments

Table 6. Fields of table SECURITIES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
SECBOARD	c4	Board
SECCODE	c12	Instrument code
SECNAME	c30	Name
REMARKS	c8	Notes
SHORTNAME	c10	Instrument
STATUS	c1	Status
TRADINGSTATUS	c1	Trading status
MARKETCODE	c4	Market
INSTRID	c4	Instruments group
LOTSIZE	i4	Lot size
MINSTEP	d16.6	Minimum price step
FACEVALUE	d16.6	Face value
FACEUNIT	c4	Face value currency
PREVDATE	t	Last trading date
PREVPRICE	d16.6	Last price of the previous day
DECIMALS	i1	Decimals
YIELD	d9.2	Last trade yield

Field	Type	Description
ACCRUEDINT	d16.6	Accrued coupon interest
PRIMARYDIST	c1	Listing
MATDATE	t	maturity date
COUPONVALUE	d13.2	Coupon value
COUPONPERIOD	i4	Coupon period
NEXTCOUPON	t	Coupon expiration date
ISSUESIZE	i8	Issue size
PREVWAPRICE	d16.6	Previous day pricing
YIELDATPREVWAPRICE	d9.2	Yield at the last day pricing
REPO2PRICE	d16.6	Repo far leg price
CURRENCYID	c4	Underlying currency
BUYBACKPRICE	d16.6	Base price to calculate yield
BUYBACKDATE	t	Date to calculate yield for
AGENTID	c12	Listing agent
QUOTEBASIS	c1	Price type
ISIN	c12	ISIN
LATNAME	c30	Latin name
REGNUMBER	c20	Registration number
PREVLEGALCLOSEPRICE	d16.6	Closing price of the previous day
PREVADMITTEDQUOTE	d16.6	Admitted quote of the previous day
SECTYPE	c1	Security type
ACTIVATIONDATE	t	Activation date
PREVLOTSIZE	i4	Previous lot size
LOTSIZECHANGEDATE	t	Date of the lot size last change
ORIGINTRADINGSTATUS	c1	Session status
ISSUESIZEPLACED	i8	Placed volume
FULLCOVEREDFLAG	c1	Uncovered trading, prohibited
LISTLEVEL	i1	Listing level
COMMENTS	c128	Comments
DIVIDENDVALUE	d16.2	Dividend value, rub
DIVIDENDDATE	t	Dividend date

Table CURRENCY: Currencies directory

Table 7. Fields of table CURRENCY

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
CURRCODE	c4	Currency
CURRENCYNAME	c30	Name
CROSSRATE	c10	Price

Table TRADETIME: Trading schedule

Table 8. Fields of table TRADETIME

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem

Field	Type	Description
TIME	t	Time
INSTRID	c4	Group
BOARDID	c4	Board
TYPE	c1	Event
STATUS	c1	Status
SECCODE	c12	Instrument
MARKETID	c4	Market

Table SETTLECODES: Settlement codes

Table 9. Fields of table SETTLECODES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
SETTLECODE	c12	Settlement code
DESCRIPTION	c30	Details
SETTLEDATE	t	Settlement date
SETTLEDATE2	t	Settlement date for the repo far leg

Table TESYSTIME: System time of the trading server

Table 10. Fields of table TESYSTIME

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
TIME	t	Current time
DATE	t	Date
MICROSECONDS	i4	Trade registration time, in microseconds
TOMORROWDATE	t	Next trading date
LASTTRTIME	t	Last transaction
LASTTRMSEC	i4	Microseconds of last transaction

Table MARKETS: Markets

Table 11. Fields of table MARKETS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
MARKETID	c4	Market
MARKETNAME	c30	Name
STATUS	c1	Status
LATNAME	c30	Latin name

Table SEC_SETTLECODE: Settlement codes for instruments

Table 12. Fields of table SEC_SETTLECODE

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem

Field	Type	Description
replAct	i8	Service field of the replication subsystem
SECBOARD	c4	Board
SECCODE	c12	Instrument
SETTLECODE	c12	Settlement code
ACCRUEDINT	d16.6	Accrued coupon interest
ACCRUEDINT2	d16.6	Accrued coupon interest of the repo far leg
PRICE2	d16.6	Repo far leg price
REPORATE	d16.6	Repo rate, %
SETTLEDATE	t	Settlement date
SETTLEDATE2	t	Repo settlement date
REPOTERM	i4	Repo term

Table AUCTSTATS: Auction stats

Table 13. Fields of table AUCTSTATS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
PERIOD	c1	Period
SECBOARD	c4	Board
SECCODE	c12	Instrument
PLANNEDTIME	t	Planned Auction Time
STARTTIME	t	Auction start time
ENDTIME	t	Auction end time
AUCTPRICE	d16.6	Auction price
VALUE	d16.2	Volume
VOLUME	i8	Trade volume
NUMTRADES	i4	Trades
IMBALANCE	i8	Imbalance
MARKETVOLB	i8	Market Buy
MARKETVOLS	i8	Market Sell

Table DPAUCTIONS: Dark pool auctions

Table 14. Fields of table DPAUCTIONS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
SECBOARD	c4	Board
SECCODE	c12	Instrument
PLANNEDTIME	t	Planned Auction Time
STARTTIME	t	Auction start time
ENDTIME	t	Auction end time
LCURRENTPRICE	d16.6	Official current price
PRICEBOUNDUP	d16.6	Maximum allowed price
PRICEBOUNDDOWN	d16.6	Minimum allowed price
AUCTPRICE	d16.6	Auction price
VALUE	d16.2	Volume

Field	Type	Description
VOLUME	i8	Trade volume
NUMTRADES	i4	Trades

Table INDEXES: Indexes

Table 15. Fields of table INDEXES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
INDEXBOARD	c4	Board
INDEXCODE	c12	Index code
NAME	c30	Name
SHORTNAME	c10	Index
CURRENTVALUE	d16.6	Current
LASTVALUE	d16.6	Closing
DECIMALS	i1	Decimals
LATNAME	c30	Latin name
TIME	t	Calculation time
OPENVALUE	d16.6	Opening
VALTODAY	i8	Trading volume
MIN	d16.6	Minimum
MAX	d16.6	Maximum

Table STATS: Parameters of the trading system

Table 16. Fields of table STATS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
SESSION	i8	Session number
TEVERSION	i8	Version
SYSTEMID	c1	Type
TESTSYSTEM	c1	Test system

Table TRDTIMEGROUPS: Events groups

Table 17. Fields of table TRDTIMEGROUPS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
TYPE	c1	Events group
NAME	c32	Group name
LATNAME	c32	Latin name

Stream MCXSPOT_MDTRADE_REPL - trading information

Data scheme

Tables:

- ALL_TRADES - All trades

Table ALL_TRADES: All trades

Table 18. Fields of table ALL_TRADES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
TRADENO	i8	Trade #
TRADETIME	t	Time
SECBOARD	c4	Board
SECCODE	c12	Instrument
PRICE	d16.6	Price
QUANTITY	i8	Lots
VALUE	d16.2	Volume
ACCRUEDINT	d16.2	Accrued interest
YIELD	d9.2	Yield
PERIOD	c1	Period
SETTLECODE	c12	Settlement code
BUYSELL	c1	Buy/Sell
REPORATE	d16.6	Repo rate, %
REPOVALUE	d16.2	Repo value
REPO2VALUE	d16.2	Repo far leg value
REPOTERM	i4	Repo term
MICROSECONDS	i4	Microseconds
SETTLEDATE	t	Settlement date

Replication scheme CURRENCY

Stream MCXCC_AGGR_REPL - quotes for instruments

Data scheme

Tables:

- ORDERBOOK - Orderbook

Table ORDERBOOK: Orderbook

Table 19. Fields of table ORDERBOOK

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
SECBOARD	c4	Board
SECCODE	c12	Instrument
BUYSELL	c1	Buy/Sell
PRICE	d16.6	Price
QUANTITY	i8	Lots

Stream MCXCC_MDCOMMON_REPL - general information on instruments

Data scheme

Tables:

- COMMON - Financial statistics

Table COMMON: Financial statistics

Table 20. Fields of table COMMON

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
SECBOARD	c4	Board
SECCODE	c12	Instrument code
BID	d16.6	Bid
BIDDEPTH	i8	Bid depth
BIDDEPTHT	i8	Total bid
NUMBIDS	i4	Number of bids
OFFER	d16.6	Offer
OFFERDEPTH	i8	Offer depth
OFFERDEPTHT	i8	Total offer
NUMOFFERS	i4	Number of offers
OPEN	d16.6	Open
HIGH	d16.6	Maximum
LOW	d16.6	Minimum
LAST	d16.6	Last
LASTNEG	d16.6	Last negotiated trade
CHANGE	d16.6	Price change to the last price of the previous day
QTY	i8	Lots in the last trade
TIME	t	Time of the last trade
VOLTODAY	i8	Amount, today
VALTODAY	i8	Volume, today
VALUE	d16.2	Amount of the last trade
WAPRICE	d16.6	Pricing
HIGHBID	d16.6	Best bid
LOWOFFER	d16.6	Best offer
NUMTRADES	i4	Number of trades, today
PRICEMINUSPREVWAPRICE	d16.6	Price change to the previous day pricing
CLOSEPRICE	d16.6	Post-trading price
LASTBID	d16.6	Last bid of the session
LASTOFFER	d16.6	Last offer of the session
LASTSETTLECODE	c12	Settlement code of the last trade
BASEPRICE	d16.6	Base SWAP price
MARKETPRICE	d16.6	Market price of the previous day
MARKETPRICETODAY	d16.6	Market price
SETTLECODE	c12	Settlement code
MARKETPRICE2	d16.6	Moscow Exchange fixing
ADMITTEDQUOTE	d16.6	International fixing
SETTLEDATE	t	Settlement date

Stream MCXCC_INFO_REPL - referense information

Data scheme

Tables:

- BOARDS - Trading boards
- BCMESSAGES - Messages
- TRDTIMETYPES - Trading schedule event types
- SECURITIES - Financial instruments
- INDEXES - Indexes
- CURRENCY - Currencies directory
- SETTLECODES - Settlement codes
- TESYSTIME - System time of the trading server
- MARKETS - Markets
- TRADETIME - Trading schedule
- STATS - Parameters of the trading system

Table BOARDS: Trading boards

Table 21. Fields of table BOARDS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
BOARDID	c4	Board code
BOARDNAME	c30	Board
STATUS	c1	Status
MARKETID	c4	Market
LATNAME	c30	Latin name

Table BCMESSAGES: Messages

Table 22. Fields of table BCMESSAGES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
URGENCY	c1	Urgency
FROMUSER	c12	Sender
MSGTIME	c8	Time
MSGTEXT	c256	Text

Table TRDTIMETYPES: Trading schedule event types

Table 23. Fields of table TRDTIMETYPES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
TYPE	c1	Type of the event
DESCRIPTION	c50	Details

Table SECURITIES: Financial instruments

Table 24. Fields of table SECURITIES

Field	Type	Description
replID	i8	Service field of the replication subsystem

Field	Type	Description
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
SECBOARD	c4	Board
SECCODE	c12	Instrument code
SECNAME	c30	Name
REMARKS	c8	Notes
SHORTNAME	c10	Instrument
STATUS	c1	Status
TRADINGSTATUS	c1	Trading status
MARKETCODE	c4	Market
INSTRID	c4	Instruments group
SECTORID	c4	Sector code
LOTSIZE	i4	Lot size
MINSTEP	d16.6	Minimum price step
FACEVALUE	d16.6	Face value
FACEUNIT	c4	Face value currency
PREVDATE	t	Last trading date
PREVPRICE	d16.6	Last price of the previous day
DECIMALS	i1	Decimals
PREVWAPRICE	d16.6	Previous day pricing
CURRENCYID	c4	Underlying currency
LATNAME	c30	Latin name

Table INDEXES: Indexes

Table 25. Fields of table INDEXES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
INDEXBOARD	c4	Board
INDEXCODE	c12	Index code
NAME	c30	Name
SHORTNAME	c10	Index
CURRENTVALUE	d16.6	Current
LASTVALUE	d16.6	Closing
DECIMALS	i1	Decimals
LATNAME	c30	Latin name
TIME	t	Calculation time
OPENVALUE	d16.6	Opening
VALTODAY	i8	Trading volume
MIN	d16.6	Minimum
MAX	d16.6	Maximum

Table CURRENCY: Currencies directory

Table 26. Fields of table CURRENCY

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem

Field	Type	Description
replAct	i8	Service field of the replication subsystem
CURRCODE	c4	Currency
CURRENCYNAME	c30	Name
CROSSRATE	c10	Price

Table SETTLECODES: Settlement codes

Table 27. Fields of table SETTLECODES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
SETTLECODE	c12	Settlement code
DESCRIPTION	c30	Details
SETTLEDATE	t	Settlement date

Table TESYSTIME: System time of the trading server

Table 28. Fields of table TESYSTIME

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
TIME	t	Current time
DATE	t	Date
MICROSECONDS	i4	Trade registration time, in microseconds
TOMORROWDATE	t	Next trading date

Table MARKETS: Markets

Table 29. Fields of table MARKETS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
MARKETID	c4	Market
MARKETNAME	c30	Name
STATUS	c1	Status
LATNAME	c30	Latin name

Table TRADETIME: Trading schedule

Table 30. Fields of table TRADETIME

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
TIME	t	Time
MARKETID	c4	Market
INSTRID	c4	Group
BOARDID	c4	Board
SECCODE	c12	Instrument

Field	Type	Description
TYPE	c1	Event
STATUS	c1	Status

Table STATS: Parameters of the trading system

Table 31. Fields of table STATS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
SESSION	i8	Session number
TEVERSION	i8	Version
SYSTEMID	c1	Type
TESTSYSTEM	c1	Test system

Stream MCXCC_MDTRADE_REPL - trading information

Data scheme

Tables:

- ALL_TRADES - All trades

Table ALL_TRADES: All trades

Table 32. Fields of table ALL_TRADES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
TRADENO	i8	Trade #
TRADETIME	t	Time
SECBOARD	c4	Board
SECCODE	c12	Instrument
PRICE	d16.6	Price
QUANTITY	i8	Lots
VALUE	d16.2	Volume
PERIOD	c1	Period
SETTLECODE	c12	Settlement code
BUYSELL	c1	Buy/Sell
MICROSECONDS	i4	Microseconds
SETTLEDATE	t	Settlement date

Replication scheme USERDATA

Stream MCXCC_USERDATA_REPL - clients data

Data scheme

Tables:

- ASSETS - Assets
- BANK - Settlement authorities
- BANKACC - Settlement codes

- BANKUSE - Accounts in settlement authoruties
- CLIENTCODES - Brokerage Firm's clients
- EXT_MMSTATS - Market-maker obligations (ext.)
- FIRMS - Firms
- INSTRS - Financial instruments groups
- NEGDEALS - Negotiated deals
- ORDERS - Orders
- POSITIONS - Current positions, money
- POSTYPE - Positions type
- RM_HOLD - Obligations and demands on assets
- RM_INDICATIVE - Pecent risks parameters
- RM_PRICERANGE - Market risks parameters
- RM_PRICERANGE_FIRM - Individual risk parameters
- TRADES - Trades
- TRDACC - Trading acounts
- TRDTIMEGROUPS - Events groups
- USERS - Clients
- USER_TRDACC - Trading account

Table ASSETS: Assets

Table 33. Fields of table ASSETS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
ASSET	c12	Asset code
RC	f	Central rate
RCRUB	f	Central rate, roubles
DECIMALS	i1	Decimals
COLLATERAL	c1	Flag of collateral
CBRATE	f	Central Bank rate, %

Table BANK: Settlement authorities

Table 34. Fields of table BANK

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
BANKID	c12	Settlement authority
SHORTNAME	c12	Name
BANKNAME	c120	Full name

Table BANKACC: Settlement codes

Table 35. Fields of table BANKACC

Field	Type	Description
replID	i8	Service field of the replication subsystem

Field	Type	Description
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
BANKACCID	c12	Settlement code
FIRMID	c12	Firm
DESCRIPTION	c30	Details
DEFAULTER	c1	Extra session
EARLYSETTLE	c1	Early settlement
TRADINGCLOSED	c1	Trading session closed
STATUS	c1	Status
FULLCOVEREDBUY	c1	Uncovered trading, prohibited by the Management Company
CLIENTCODE	c12	Client code
CLEARINGFIRMID	c12	Clearing Firm
CLEARINGBANKACCID	c12	Clearing settlement code

Table BANKUSE: Accounts in settlement authoruties

Table 36. Fields of table BANKUSE

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
BANKACCID	c12	Settlement code
FIRMID	c12	Firm
BANKID	c12	Settlement authority
REALACCOUNT	c120	Account in the settlement authoruty
DESCRIPTION	c30	Details
CURRCODE	c4	Settlement currency
NCCREALACCOUNT	c20	Collateral account number

Table CLIENTCODES: Brokerage Firm's clients

Table 37. Fields of table CLIENTCODES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
CLIENTCODE	c12	Client code
DETAILS	c20	Comment
CLIENTTYPE	c2	Type

Table EXT_MMSTATS: Market-maker obligations (ext.)

Table 38. Fields of table EXT_MMSTATS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
FIRMID	c12	Firm
SECBOARD	c4	Board
SECCODE	c12	Instrument

Field	Type	Description
MMID	c12	Record ID
PARENTMMID	c12	Parent record ID
SCHEMANAME	c20	Scheme
AGREEMENT	c12	Agreement#
AGREEMENTDATE	t	Agreement date
MINSPREADVOLUMEBUY	i8	Minimum volume to buy
MINSPREADVOLUMESELL	i8	Minimum volume to sell
MAXTRADESVOLUME	i8	Maximum trade volume
MAXTRADESVALUE	d16.2	Maximum trade volume, roubles
MAXSPREADPERC	f	Maximum spread, %
MAXSPREADPERC1	f	Maximum spread, buy orders, %
MAXSPREADPERC2	f	Maximum spread, sell orders, %
MAXSPREADPRICE	d16.6	Maximum spread
MINKEEPPERCENT	d9.2	Exercise, minimum %
CURRENTSPREADPERC	f	Spread, %
CURRENTSPREADPRICE	d16.6	Spread
CURRENTMINBUYPRICE	d16.6	Minimum buy price
CURRENTMAXSELLPRICE	d16.6	Maximum sell price
CURRENTALLOWEDBUYPRICE	d16.6	Minimum buy price allowed
CURRENTALLOWEDSELLPRICE	d16.6	Maximum sell price allowed
TOTALBUYVOLUME	i8	Buy
TOTALSELLVOLUME	i8	Sell
TOTALBREACHTIME	t	Trading halt
TOTALKEEPTIME	t	Market making time, total
FACTTRADESVOLUME	i8	Volume
FACTTRADESVALUE	d16.2	Volume, roubles
FACTKEEPPERCENT	d9.2	Exercise, %
LEFTKEEPTIME	t	Time left to exercise
UPDATETIME	t	Update time
PROCESSED	c1	Obligations processed
KEEPSPREADVARIANT	c4	Spread type

Table FIRMS: Firms

Table 39. Fields of table FIRMS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
FIRMID	c12	Firm code
FIRMNAME	c30	Firm
STATUS	c1	Status
EXCHANGE	c4	Exchange
FULLCOVEREDFLAG	c1	Uncovered trading, prohibited

Table INSTRS: Financial instruments groups

Table 40. Fields of table INSTRS

Field	Type	Description
replID	i8	Service field of the replication subsystem

Field	Type	Description
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
INSTRID	c4	Group
INSTRNAME	c30	Name
STATUS	c1	Status
INSTRTYPE	c1	Instrument type
QUOTEBASIS	c1	Price type
INSTRFWD	c1	Long instrument

Table NEGDEALS: Negotiated deals

Table 41. Fields of table NEGDEALS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
DEALNO	i8	Order #
DEALTIME	t	Time
STATUS	c1	Status
BUYSELL	c1	Buy/Sell
BROKERREF	c20	Notes
USERID	c12	Client
FIRMID	c12	Firm
CPFIRMID	c12	Counterparty
ACCOUNT	c12	Trading account
SECBOARD	c4	Board
SECCODE	c12	Instrument
PRICE	d16.6	Price
QUANTITY	i8	Lots
SETTLEDATE	t	Settlement date
MATCHREF	c10	Reference
SETTLECODE	c12	Settlement code
VALUE	d16.2	Volume
EXTREF	c12	External client code
REPORATE	d16.6	Rate, %
PERIOD	c1	Period
CLIENTCODE	c12	Client code
UPDATETIME	t	Update time
BANKACCID	c12	Settlement code
BASEPRICE	d16.6	Base price
CURRENCYID	c4	Settlement currency
BANKID	c12	Settlement authority

Table ORDERS: Orders

Table 42. Fields of table ORDERS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem

Field	Type	Description
ORDERNO	i8	Order #
ORDERTIME	t	Order time
STATUS	c1	Status
MKTLIMIT	c1	Type
BUYSELL	c1	Buy/Sell
SPLITFLAG	c1	Type by price
IMMCANCEL	c1	Type by balance
BROKERREF	c20	Notes
USERID	c12	Client
FIRMID	c12	Firm
ACCOUNT	c12	Trading account
SECBOARD	c4	Board
SECCODE	c12	Instrument
PRICE	d16.6	Price
QUANTITY	i8	Lots
HIDDEN	i8	Hidden lots
BALANCE	i8	Lots balance
VALUE	d16.2	Volume
SETTLEDATE	t	Settlement date
LINKEDORDER	i8	Replaced order #
ENTRYTYPE	c1	Order price entry type
PERIOD	c1	Period
EXTREF	c12	External client code
CLIENTCODE	c12	Client code
UPDATETIME	t	Update time
UPDATE_MICROSECONDS	i4	Update time, microseconds
MICROSECONDS	i4	Microseconds
BANKACCID	c12	Settlement code
CURRENCYID	c4	Settlement currency
BANKID	c12	Settlement authority
INTORDERNO	i8	Order

Table POSITIONS: Current positions, money

Table 43. Fields of table POSITIONS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
FIRMID	c12	Firm
CURRCODE	c4	Settlement currency
TAG	c4	Position
BANKACCID	c12	Settlement code
DESCRIPTION	c30	Details
OPENBAL	d17.2	Opening
CURRENTPOS	d17.2	Current
PLANNEDPOS	d17.2	Planned
LIMIT1	d17.2	External limits
LIMIT2	d17.2	Internal limits

Field	Type	Description
ORDERBUY	d17.2	Buy orders
ORDERSELL	d17.2	Sell orders
NETTO	d17.2	Netto
MARGINCALL	d17.2	Margin Call
DEBIT	d17.2	Debiting
CREDIT	d17.2	Depositing
PLANNEDBAL	d17.2	Control position
POSNGROUP	c1	Positions group

Table POSTYPE: Positions type

Table 44. Fields of table POSTYPE

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
POSITIONTAG	c4	Money positions in market
CURRCODE	c4	Settlement currency
POSNGROUP	c1	Positions group
DESCRIPTION	c30	Details

Table RM_HOLD: Obligations and demands on assets

Table 45. Fields of table RM_HOLD

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
FIRMID	c12	Firm
ACCOUNT	c12	Trading account
BANKACCID	c12	Settlement code
ASSET	c12	Asset
DATE	t	Settlement date
DEBIT	d16.2	Obligations
CREDIT	d16.2	Demands
VALUEBUY	d16.2	Buy orders
VALUESELL	d16.2	Sell orders
MARGINCALL	d16.2	Margin Call
PLANNEDCOVERED	d16.2	Planned T+

Table RM_INDICATIVE: Pecent risks parameters

Table 46. Fields of table RM_INDICATIVE

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
ASSET	c12	Asset
DATE	t	Settlement date
NUM	i1	Limit
LIMITBEGIN	d16.2	Limit start

Field	Type	Description
LIMITEND	d16.2	Limit end
LRATE_RUB	f	Lower rate limit
CRATE_RUB	f	Central rate
HRATE_RUB	f	Upper rate limit
LIMITBEGIN_RUB	d16.2	Limit start, roubles
LIMITEND_RUB	d16.2	Limit end, roubles
CHANGETIME	t	Risk rates update time

Table RM_PRICERANGE: Market risks parameters

Table 47. Fields of table RM_PRICERANGE

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
ASSET	c12	Asset
NUM	i1	Limit
LIMITBEGIN	d16.2	Limit start
LIMITEND	d16.2	Limit end
RTL_RUB	f	Lower rate limit
RTH_RUB	f	Upper rate limit
LIMITBEGIN_RUB	d16.2	Limit start, roubles
LIMITEND_RUB	d16.2	Limit end, roubles
RCRUB	f	Central rate
CHANGETIME	t	Risk rates update time

Table RM_PRICERANGE_FIRM: Individual risk parameters

Table 48. Fields of table RM_PRICERANGE_FIRM

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
FIRMID	c12	Firm
ACCOUNT	c12	Trading account
BANKACCID	c12	Settlement code
ASSET	c12	Asset
K_EXCH	d16.2	Central rate coefficient, today
K_EXCH_SET	d16.2	Central rate coefficient, tomorrow
K_USER	d16.2	Management Company coefficient, today
K_USER_SET	d16.2	Management Company coefficient, tomorrow
COLLATERAL	c1	Flag of collateral

Table TRADES: Trades

Table 49. Fields of table TRADES

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
TRADENO	i8	Trade #

Field	Type	Description
ORDERNO	i8	Order #
TRADETIME	t	Time
BUYSELL	c1	Buy/Sell
BROKERREF	c20	Notes
USERID	c12	Client
FIRMID	c12	Firm
CPFIRMID	c12	Counterparty
ACCOUNT	c12	Trading account
SECBOARD	c4	Board
SECCODE	c12	Instrument
PRICE	d16.6	Price
QUANTITY	i8	Lots
VALUE	d16.2	Volume
SETTLEDATE	t	Settlement date
PERIOD	c1	Period
SETTLECODE	c12	Settlement code
TRADETYPE	c1	Type
EXTREF	c12	External client code
COMMISSION	d16.2	Total commission
REPORATE	d16.6	Rate, %
CLEARINGCENTERCOMM	d16.2	Clearing Center commission
EXCHANGECOMM	d16.2	Exchange trading commission
TRADINGSYSTEMCOMM	d16.2	Trading access commission
CLIENTCODE	c12	Client code
MICROSECONDS	i4	Microseconds
BANKACCID	c12	Settlement code
BASEPRICE	d16.6	Base price
PARENTTRADENO	i8	SWAP trade visible part
HIDDENQTYORDER	c1	Iceberg order trade
CURRENCYID	c4	Settlement currency
BANKID	c12	Settlement authority
TRADEDATE	t	Trading date
CLEARINGFIRMID	c12	Clearing Firm
CLEARINGBANKACCID	c12	Clearing settlement code

Table TRDACC: Trading acounts

Table 50. Fields of table TRDACC

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
TRDACCID	c12	Trading account
TYPE	c1	Deposit account type
FIRMID	c12	Firm
DESCRIPTION	c30	Details
BANKACCID	c12	Settlement code
STATUS	c1	Status
TRDACCTYPE	c1	Trading account type

Table TRDTIMEGROUPS: Events groups

Table 51. Fields of table TRDTIMEGROUPS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
TYPE	c1	Events group
NAME	c32	Group name
LATNAME	c32	Latin name

Table USERS: Clients

Table 52. Fields of table USERS

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
USERID	c12	Client code
USERNAME	c30	Client
FIRMID	c12	Firm
STATUS	c1	Status
TRADING	c1	Trading operations
USERGROUP	c12	Group
CODMODESUBSCR	c1	COD-subscription
CODMODE	c1	COD-mode
IPGATEWAY	c20	Gateway
IPCLIENT	c20	Workstation
LOGGEDON	c1	Active

Table USER_TRDACC: Trading account

Table 53. Fields of table USER_TRDACC

Field	Type	Description
replID	i8	Service field of the replication subsystem
replRev	i8	Service field of the replication subsystem
replAct	i8	Service field of the replication subsystem
FIRMID	c12	Firm
USERID	c12	Client
TRDACCID	c12	Trading account

Commands description CURRENCY

Method CHANGE_LANGUAGE - Switch language of the Trading System messages

Message type: 1

Table 54. Input parameters

Name	Type	Default value	Description
LANGUAGEID	c1		Code

Method CHANGE_PASSWORD - Change password

Message type: 2

Table 55. Input parameters

Name	Type	Default value	Description
CURRENTPW	c10		Current password
NEWPW	c10		New password

Method CODMODE_SWITCH - COD-mode on/off

Message type: 3

Table 56. Input parameters

Name	Type	Default value	Description
EMPTY	i1		Empty

Method MESSAGE_SEND - Send message

Message type: 4

Table 57. Input parameters

Name	Type	Default value	Description
USERIDTO	c12		Recipient
FIRMIDTO	c12		Firm
URGENCY	c1		Urgency
MESSAGE	c256		Message text

Method NEGDEAL - Negotiated order

Message type: 5

Table 58. Input parameters

Name	Type	Default value	Description
ACCOUNT	c12		Trading account
BUYSELL	c1		Buy/Sell
SECBOARD	c4		Board
SECCODE	c12		Instrument
CPFIRMID	c12		Counterparty
PRICE	c10		Cross-rate
QUANTITY	i8		Lots
BROKERREF	c20		Notes
MATCHREF	c10		Reference
SETTLECODE	c12		Settlement code
EXTREF	c12		External client code
CLIENTCODE	c12		Client code
BASEPRICE	c10		Base rate

Method ORDER - Standard order

Message type: 6

Table 59. Input parameters

Name	Type	Default value	Description
ACCOUNT	c12		Trading account
BUYSELL	c1		Buy/Sell

Name	Type	Default value	Description
MKTLIMIT	c1		Type
SPLITFLAG	c1		Type by cross-rate
IMMCANCEL	c1		Type by balance
SECBOARD	c4		Board
SECCODE	c12		Instrument
PRICE	c10		Cross-rate
QUANTITY	i8		Lots
HIDDEN	i8		Lots hidden
BROKERREF	c20		Notes
EXTREF	c12		External client code

Method ORDER_AMEND - Amend order

Message type: 7

Table 60. Input parameters

Name	Type	Default value	Description
ORDERNO	i8		Order
ACCOUNT	c12		Trading account code
BUYSELL	c1		Buy/Sell
SECBOARD	c4		Board
SECCODE	c12		Instrument
CLIENTCODE	c12		Client code
PRICE	c10		Cross-rate
QUANTITY	i8		Lots
BROKERREF	c20		Notes
EXTREF	c12		External client code
CANCELORIGONREJECT	c1		Cancel order

Method SET_LIMIT2 - Change the Firm's internal restrictions

Message type: 9

Table 61. Input parameters

Name	Type	Default value	Description
CURRCODE	c4		Settlement currency
TAG	c4		Position
BANKACCID	c12		Settlement code
LIMIT2SET	c1		Verify internal limit
LIMIT2	i8		Internal restriction
ALLOWBREACH	c1		Allow limit violation

Method USER_HEARTBEAT - Client heartbeat

Message type: 12

Table 62. Input parameters

Name	Type	Default value	Description
empty	i1		Empty

Method USER_TRADE_SUSP - Prohibit trading operations for the client

Message type: 13

Table 63. Input parameters

Name	Type	Default value	Description
USERID	c12		Client
WITHDRAW	c1		Cancel the client's orders

Method USER_TRADE_UNSUSP - Allow trading operations for the client

Message type: 14

Table 64. Input parameters

Name	Type	Default value	Description
USERID	c12		Client

Method WD_NEGDEAL - Cancel negotiated orders

Message type: 15

Table 65. Input parameters

Name	Type	Default value	Description
DEALNO	i8		Order number
USERID	c12		Client
FIRMID	c12		Firm

Method WD_ORDERS - Cancel orders

Message type: 16

Table 66. Input parameters

Name	Type	Default value	Description
BUYSELL	c1		Buy/Sell
ACCOUNT	c12		Trading account code
SECBOARD	c4		Board
SECCODE	c12		Instrument
TRADERID	c12		Client
FIRMID	c12		Firm
EXTREF	c12		External client code
CLIENTCODE	c12		Client code

Method WD_ORDER_BY_NUMBER - Cancel order by number

Message type: 17

Table 67. Input parameters

Name	Type	Default value	Description
ORDERNO	i8		Order

Method LOGIN_ASTS - Log in

Message type: 25

Table 68. Input parameters

Name	Type	Default value	Description
micex_login	c64		Login
micex_pwd	c64		Password

Method LOGOUT_ASTS - Log out

Message type: 26

Table 69. Input parameters

Name	Type	Default value	Description
EMPTY	i1		Empty

A. List of return codes

Return code	Description
11123	Deal accepted.
11124	Deal accepted & matched.
11125	Deal accepted (unvalidated).
11129	Invalid security id.
11130	Negotiated deals not accepted for indices.
11131	Security is not trading yet.
11132	Security is in break period.
11133	Security is not currently trading.
11134	Trading in security is finished.
11135	Security is not trading today.
11136	Security is suspended.
11138	Instrument is suspended.
11139	Board is suspended.
11140	Invalid buy or sell indicator.
11141	Invalid counterparty firm.
11143	Invalid price.
11144	Invalid quantity.
11145	Invalid trading account.
11146	Trading account is suspended.
11147	Trading account's depository account is suspended.
11149	Account has insufficient balance to sell.
11155	Invalid deal number.
11156	Deal is currently unmatched.
11157	Deal is already validated.
11158	Deal is currently in an unknown state.
11159	Invalid order method for this security and board.
11160	Buy order accepted.
11161	Sell order accepted.
11162	Buy order accepted.
11163	Sell order accepted.
11164	Order quantity is incorrect.
11165	Buy order accepted (open period).
11166	Sell order accepted (open period).
11167	Minimum price step is set.
11168	Lot size is set.
11169	Buy order accepted (unvalidated).
11170	Sell order accepted (unvalidated).
11171	Invalid market order value.
11172	Orders not accepted for indices.

Return code	Description
11173	Invalid order type.
11174	Invalid price split flag.
11175	Invalid fill flag.
11176	A market order must allow price splits.
11177	Market orders not accepted during security's open period.
11178	Single price orders not accepted during security's open period.
11179	Immediate orders not accepted during security's open period.
11180	Price may not be 0 for a limit order.
11181	Immediate option not allowed for a market order that will stay in order book.
11182	Price is out of range.
11187	Unable to match order.
11193	Invalid order number.
11194	You may not specify an order number and a user.
11197	You do not have access to this function.
11198	Trading System unavailable.
11199	Trading System is suspended.
11201	Unable to service request.
11202	You do not have access to the Trading System.
11210	Order withdrawn.
11211	Deal withdrawn.
11213	Invalid price operator.
11218	Invalid firm code.
11219	No orders withdrawn, rejection(s).
11222	No negotiated deals to withdraw.
11230	Order value is incorrect.
11231	Only main board orders may be entered during primary auction.
11234	Order may not have immediate flag in primary auction.
11235	Only issuer agent may enter primary auction sell order.
11239	Sell order may not be a single price order in primary auction.
11240	Sell order should have zero quantity in primary auction.
11241	Auction bidding period is finished for security.
11242	Price must be 0 for market orders in primary auction.
11243	Market orders percentage limit will be breached.
11244	Firm cash limit will be breached for this instrument.
11245	Firm total cash limit will be breached.
11246	Buy order accepted.
11247	Sell order accepted.
11252	Security is in primary distribution.
11263	Trading account limit will be exceeded.
11271	Negotiated deals are not allowed during this period.
11361	Invalid order method for firm.
11363	Only negotiated deal orders are accepted for this trading account.
11364	Buy orders are not accepted for this trading account.
11365	Sell orders are not accepted for this trading account.
11368	Unable to match Force Partial Withdraw Order.
11376	Orders canceled successfully.
11407	Invalid order method for trdacc.
11408	Fill Withdraw option not allowed for a market order.

Return code	Description
11409	No weighted average price exists.
11413	Firm and Counterparty must be the same for deals on this board.
11414	Price is outside of allowed range.
11415	One side of the deal must have a client account.
11416	One side of the deal must have a members own account.
11419	No bid or offer price exists for the source security and board.
11424	No Second Part Price exists for REPO.
11425	No Rate Of Interest exists for REPO.
11429	REPO Upper limit breached.
11438	REPO rate out of range.
11439	REPO second part period is not closed.
11443	Yield is outside of allowed range.
11445	Cross trades not allowed for this instrument.
11446	Firm cash limit for the Second Part of REPO will be breached.
11447	Total cash limit for REPO operations will be breached.
11448	Invalid settle code specified.
11449	Invalid number of trades.
11450	Invalid trade number.
11451	You can not validate this trade.
11452	These trades can not be validated.
11453	Trade is already validated.
11454	There is a report for buy trade.
11456	Report accepted.
11457	Report accepted & matched.
11458	Invalid report number specified.
11459	Report withdrawn.
11460	No reports to withdraw.
11461	There already exists a buy quote for specified security and settlement code.
11462	There already exists a sell quote for specified security and settlement code.
11463	Quote withdrawn.
11464	No quotes to withdraw.
11465	Reports are not allowed during this period.
11486	Order value is incorrect.
11497	Invalid character in brokerref.
11498	Invalid character in matchref.
11499	Invalid character in extref.
11507	Order quantity doesn't match security's granularity (lots).
11508	Account has insufficient convsecurity balance to sell.
11509	Immediate WAPrice orders not accepted during security's open period.
11510	Immediate WAPrice orders not accepted during primary auction.
11511	Immediate WAPrice orders could not be queued.
11512	Buy order accepted.
11513	Sell order accepted.
11515	Refund rate is not allowed for the settle code specified.
11516	Incomplete repo order.
11517	Invalid refund rate.
11518	Invalid REPO rate.
11519	Invalid price2.

Return code	Description
11520	Negative or zero price2 resulted.
11521	Can't send report to trade due to invalid price.
11522	Invalid combination of market, board, instrument and security.
11523	REPO rate must not exceed.
11533	Invalid client code.
11536	Order must be a limit order.
11537	Order may not be a single price order.
11538	Order should have zero quantity.
11539	Buy order already entered.
11540	Price must be 0 for market orders in auction.
11543	Auction price can not be calculated.
11548	Repo Rate is incorrect.
11549	Repo Rate is incorrect.
11550	Limit will be breached for position.
11554	Invalid discount specified.
11555	Invalid lower discount specified.
11556	Invalid upper discount specified.
11557	Invalid block collateral flag.
11558	Invalid repo value specified.
11559	Invalid price resulted.
11560	Invalid quantity resulted.
11561	Invalid REPO value resulted.
11562	Invalid REPO repurchase value resulted.
11563	Main board is not defined for the security.
11565	Market price is not defined for the security.
11566	Starting discount can not be less than lower discount limit.
11567	Starting discount can not be greater than upper discount limit.
11568	This report can not be cleanly accepted.
11573	Invalid settlement code or REPO term specified.
11575	Buy Order accepted. Balance withdrawn to avoid a cross trade.
11576	Sell Order accepted. Balance withdrawn to avoid a cross trade.
11577	This order causes a cross trade.
11578	Total order value at single repo rate can not exceed limit.
11579	For this instrument price is less than allowed.
11580	For this instrument price is greater than allowed.
11581	Starting discount is less than allowed.
11582	Starting discount is greater than allowed.
11583	Lower discount limit is incorrect.
11584	Upper discount limit is incorrect.
11585	Lower discount limit must not be specified.
11586	Upper discount limit must not be specified.
11587	Block collateral option must be set.
11588	Repo Rate is greater than allowed.
11594	REPO base condition is incorrect for this board.
11599	Invalid price2 resulted.
11600	Minimum rate step is incorrect.
11601	Minimum discount step is incorrect.
11602	REPO value for this instrument is incorrect.

Return code	Description
11603	REPO repurchase value for this instrument is incorrect.
11608	Not allowed client code type for this trading account.
11609	Not allowed client code type for this trading account.
11612	Order value is larger than allowed.
11613	Order value is less than allowed.
11615	Invalid deal number.
11616	Unable to accept deal - deal is not active.
11617	Unable to accept deal.
11618	Unable to accept deal. Invalid security specified.
11619	Unable to accept deal. Invalid price specified.
11620	Unable to accept deal. Invalid quantity specified.
11621	Unable to accept deal. Invalid settlecode specified.
11622	Unable to accept deal. Invalid refundrate specified.
11623	Unable to accept deal. Invalid matchref specified.
11624	Unable to accept deal. Invalid buy/sell specified.
11625	Warning: this will breach REPO limit. If sure, set firm's limit check flag to 'N' for position and retry.
11626	Invalid trading account for marketmaker order.
11627	Marketmaker orders accepted only in normal trading period.
11628	Invalid order type for marketmaker order.
11629	Buy Order accepted. Balance withdrawn to avoid a trade between marketmakers.
11630	Sell Order accepted. Balance withdrawn to avoid a trade between marketmakers.
11631	This order causes a trade between marketmakers.
11632	Is in breach of MGF.
11633	Is in breach of MGF.
11635	Discount limits can not be set.
11636	Margin call does not need any counterpart's acceptance.
11647	Total sell quantity of a security for a firm can not exceed of its issue size on this board.
11648	Clearing session is in progress.
11649	Trade is already canceled -
11650	There is a cancel report for buy trade.
11651	There is a cancel report for sell trade.
11652	Trade can not be canceled.
11653	Cancel report accepted & matched.
11654	Cancel report accepted.
11655	Unable to select boards.
11658	Invalid client code specified for this security.
11660	External trade registered:
11661	Invalid settle date specified.
11662	External trades withdrawn.
11663	Invalid external trade number.
11664	Invalid large trade flag.
11665	No external trades to withdraw.
11666	This trade have to be large.
11667	Invalid large flag specified.
11668	Invalid clearing type specified.
11669	Only one trade can be included in simple clearing report.
11670	Simple clearing is not currently available.
11671	Specified trade successfully settled.

Return code	Description
11672	Invalid trade number specified: '
11673	Trade already settled.
11674	Trade unvalidated.
11675	Trade is not in simple clearing mode.
11676	REPO first part trade is not validated yet for trade.
11677	REPO first part trade is not settled yet for trade.
11678	Simple clearing is not allowed for position.
11679	Margin calls can not be included in simple clearing.
11680	Trade value must be not less than for simple clearing.
11694	Simple clearing is not allowed for this security and board.
11695	Simple clearing is not allowed for the same trading accounts.
11699	Counter price is not defined.
11700	Order must be entered with counter price flag.
11701	Order price is incorrect.
11702	Settlement date of the REPO second part trade is not a working day.
11704	Only BUY orders are allowed at this moment.
11705	Only SELL orders are allowed at this moment.
11706	You are not an underwriter. Only security underwriters are allowed to enter order at this moment.
11707	Invalid transaction reference.
11718	There is a confirm report for trade.
11719	Trade is not included into clearing.
11720	Special report a not available now.
11721	ClientCode is not allowed for this trading account.
11730	The price of the buy order should be less then the best offer price for this type of order.
11731	The price of the sell order should be greater then the best bid price for this type of order.
11732	The quantity of lots is less than allowed.
11733	The quantity of lots is greater than allowed.
11734	Volume of the order is less than allowed.
11735	Volume of the order is greater than allowed.
11736	Signature validation error.
11737	Used wrong signature or EXKEYUSAGEOID.
11740	Clients without signature are not supported.
11741	The trading account and the security belong to different depositories.
11742	Only NegDeals addressed to everyone available in that trading period.
11743	This settle code is unavailable.
11744	The second part of REPO trade cannot be canceled.
11745	The transfer cannot be canceled.
11746	Specified trade successfully canceled.
11747	Unable to determine price move limit for this security.
11748	The price for this security should be in range from to
11749	Only one of RepoValue or Quantity can be specified.
11750	REPO price is not defined.
11751	Starting discount must not be specified.
11752	Discount limits must not be specified.
11754	You have got a deferred money debt. This debt should be settled by the end of this day or tomorrow during the settlement with the Central counterparty.
11755	You have got deferred security debts. These debts should be settled by the end of this day or tomorrow during the settlement with the Central counterparty.
11756	You have got a default on collaterals. All the defaults on collaterals must be settled by 15:00 today.

Return code	Description
11757	You have got an unsettled deferred money debt. The default settlement procedure will be enforced.
11758	You have got an unsettled collaterals default. The default settlement procedure will be enforced.
11759	You have got a deferred money claim. This claim will be satisfied by the Central counterparty either by the end of this day or tomorrow during the settlement with CC.
11760	You have got deferred security claims. Claims will be satisfied by the Central counterparty either by the end of this day or tomorrow during the settlement with CC.
11761	The firm's limit on liabilities to the Central counterparty has been exceeded.
11782	Simple report can not be complex.
11783	Client code is suspended.
11784	Specified trade successfully notified as payment pended.
11786	Operations suspended by Firm Manager or Trading System Supervisor.
11787	User successfully suspended.
11788	User successfully suspended. Orders withdrawn.
11789	User successfully Unsuspended.
11790	The total amount of deferred debts of the unconscionable clearing participants exceeds the limit set for the settlement with the Central counterparty. CC's own assets will not be used during the settlement.
11791	There are no deferred debts for the settlement with the Central counterparty.
11792	You have got deferred security claims on the board for the position caused by the default on this position. Claims will be settled by the Central counterparty after the default settlement.
11793	You have got a deferred money claim on the board for the position caused by the default on this position. Claim will be settled by the Central counterparty after the default settlement.
11794	The total amount of deferred debts of the unconscionable clearing participants does not exceed the limit set for the settlement with the Central counterparty. CC's own assets will be used during the settlement.
11795	United limit breached.
11796	Trading limit breached.
11797	Limit for currency.
11802	Cash position for currency will be breached.
11807	Bank Account is in default mode.
11808	Bank Account is not in default mode.
11809	Bank Account is in early settle mode.
11810	Bank Account is in trading closed mode.
11812	Limits will be breached for position.
11813	Cannot cancel trade. Parent trade should be canceled.
11814	Maximum order hidden quantity ratio is incorrect.
11815	Minimum order visible quantity value is incorrect.
11816	Hidden quantity can not be specified for market maker order.
11817	Minimum order visible quantity is less than allowed.
11819	Buy order accepted (closing auction).
11820	Sell order accepted (closing auction).
11821	Events in past time are not allowed.
11822	Buy order accepted (dark pool).
11823	Sell order accepted (dark pool).
11824	Client code type must a legal entity.
11826	Matchref must not be specified for this type of counter party.
11827	Allowed only trades with the same bank account for this period.
11828	Trading Account has not enough permissions for that type of reports.
11829	Either price or volume must be specified in the order.
11830	Counterparty should be specified for orders by value.

Return code	Description
11831	Invalid price resulted.
11832	Buy order accepted (discrete auction).
11833	Sell order accepted (discrete auction).
11834	Discrete auction has started for
11835	Discrete auction has finished for. Normal trading period will continue.
11836	Discrete auction for has finished, but not all of the conditions required to determine auction price have been met. The new Discrete auction has started.
11837	Discrete auction has finished for.
11839	Either quantity or volume must be specified in the order.
11840	Collateral position has been breached:
11841	Transfer accepted, matched.
11843	Offering qty updated.
11844	Delivery obligations on buy are not specified. Order rejected.
11845	Delivery obligations on sell are not specified. Order rejected.
11846	Delivery obligations exceeded on securities. Order rejected.
11847	For specific trading account could not found CCP trading account.
11848	CCP trading account is suspending.
11849	Trading in securities not allowed for the trading account, tied to the securities account of a foreign nominee.
11850	Sell Market orders specified by value are not allowed.
11851	For Market orders on buy allowed specification by value only in current trade period.
11852	Close Auction Price is not defined. Order rejected.
11853	Only orders with Close Auction Price are available. Close Auction Price is
11854	Activation time orders cannot have other type event activation.
11855	Buy order accepted (Activation at the closing auction).
11856	Sell order accepted (Activation at the closing auction).
11857	For the odd lots board the order balance can not exceed the security's lot size on main board.
11858	Unable to accept deal. Invalid baseprice specified.
11859	Baseprice can not be specified for this sec.
11862	Trading with TODAY settlement is over.
11863	Limit order specified by value is not allowed.
11864	Fill Withdraw option of order is not allowed for selected Trading Period.
11865	For this instrument BasePrice is less than allowed.
11866	For this instrument BasePrice is greater than allowed.
11867	For this instrument SWAP Price is less than allowed.
11868	For this instrument SWAP Price is greater than allowed.