

## REPO operations on the MICEX Stock Exchange through the MICEX Bridge API

This manual does not include information about REPO with the Central Counterparty.

Based on IFCBROKER15V interface.

The following text only describes table fields and transactions that have the key meaning for the understanding of the REPO order and settlement workflow. For the explanation of other fields refer to the interface description.

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## **Related Interface Objects**

### ***Reference Tables***

BOARDS – list of available trading boards.

CLIENTCODES – list of own clients to be used at order entry.

FIRMS – list of all the firms on the market to be used to select negotiated deal counterparties.

SEC\_SETTLECODE – settlement codes, accrued interest, settlement dates and REPO rates for all the securities.

SECURITIES – list of all securities on all the boards (according to the trader and firm permissions) with corresponding static and online market data.

### ***Trading Tables***

NEGDEALS – sent and received negotiated deal orders.

ONENEGDEAL – details about one negotiated deal order.

QUOTES – quotes sent by the firm.

REPO\_NEGDEALBOOK – quotebook for REPO negotiated deal orders that have been submitted by traders with the value of counterparty field set to “All”. Acceptance of a quote will lead to the immediate negdeal conclusion (so-called “hard quotes”).

REPO\_QUOTEBOOK – quotebook for REPO quotes. Acceptance of a quote will have to be followed by the additional confirmation by the quote initiator in order for a negdeal to be concluded (so-called “soft quotes”).

TRADES – all trades of own firm, including both order-driven and quote-driven market.

### ***Trading Transactions***

EXT\_REPO\_NEGDEAL – send an order for a negdeal either to a particular counterparty or to “All”.

EXT\_REPO\_COMPLEX\_NEGDEAL – conclude a negdeal between the company and its client without any additional confirmations from the other side.

EXT\_REPO\_QUOTE – send a “soft” quote to the market quotebook.

WD\_NEGDEAL – withdraw active negdeal orders.

WD\_QUOTE – withdraw active quotes.

### ***Positions and Settlement Tables***

POSITIONS – firm’s positions on money.

ACCOUNT\_BALANCE – firm’s current and planned positions on securities per trading accounts.

FIRM\_HOLDING\_TOTAL – firm’s current and planned positions on securities.

USTRADES – unsettled trades and margin calls.

REPORTS – settlement reports sent and received by the firm.

## **Settlement Transactions**

REPORT\_VAR – send a settlement report for 1-99 trades.

REPORT\_2 – send a settlement report for 1 or 2 trades.

REPORT\_4 – send a settlement report for 1 to 4 trades.

REPORT\_SIMPLECLEARING – send a quick settlement report for a trade (simple clearing).

COMPLEX\_REPORT\_VAR – send a settlement report for 1-99 margin calls.

COMPLEX\_REPORT – send a settlement report for 1-4 margin calls.

COMPLEX\_REPORT\_SIMPLECLEARING – send a quick settlement report for a margin call.

CONFIRM\_REPORT\_VAR – send a confirmation for 1-99 OTC REPO trades.

CONFIRM\_REPORT – send a confirmation for 1-4 OTC REPO trades.

CANCEL\_TRADE\_VAR – refuse from the margin call settlement. Can include 1-99 margin calls.

CANCEL\_TRADES – refuse from the margin call settlement. Can include from 1 to 4 margin calls.

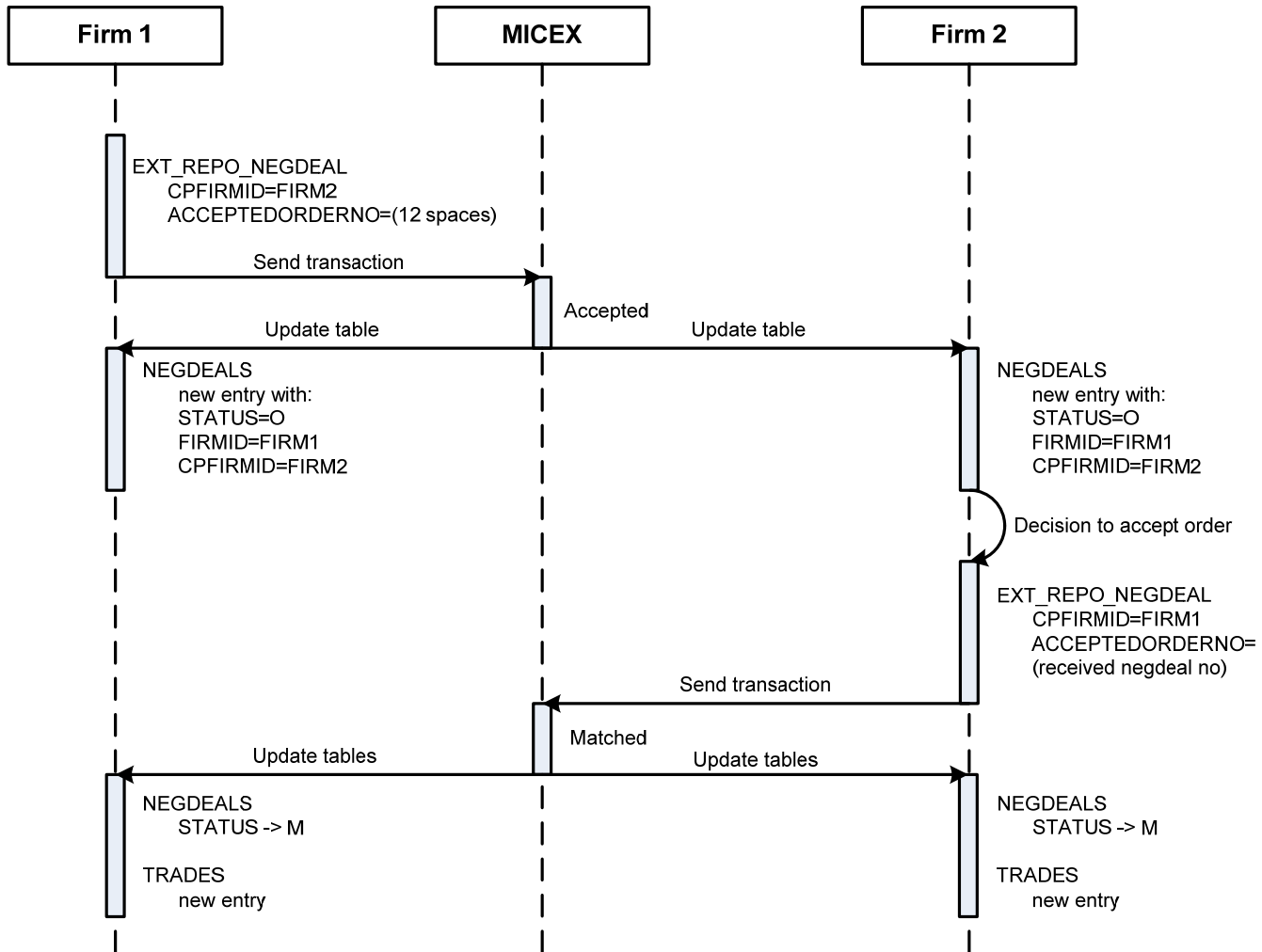
WD\_REPORT – withdraw settlement reports that haven't been accepted yet.

## **Negdeal Order vs. Quote**

Negotiated deal orders are offers that lead to the trade conclusion right after they are accepted by counterparty (by sending a matching negdeal order in reply). Negdeals can be sent either to a particular counterparty or to all the participants on the market. In latter case it would be put into the negdealbook. This is so-called “hard quote”.

Quote is the indication of an intention to buy or sell which is sent to all the participants on the market, but without an obligation to conclude a trade. This is so-called “soft quote” which goes to the quotebook. When another trader responds to this quote he needs to send the negdeal order to the quote initiator, who, in turn, will need to confirm the trade by sending the matching negdeal order in reply.

# Trade Conclusion



1. Firm 1 sends a REPO order to Firm 2 using the EXT\_REPO\_NEGDEAL transaction with:

CPFIRMID = Firm 2 ID

ACCEPTEDQUOTENO = 12 spaces

ACCEPTEDORDERNO = 12 spaces

Only two out of the following three parameters are needed:

QUANTITY

REPOORDERVALUE

STARTDISCOUNT

If settlement price for a security is not defined then the first two parameters should be used.

For some REPO boards it is possible to specify only the REPOORDERVALUE or the QUANTITY value.

New records are added to the NEGDEALS tables of both firms and for both firms:

FIRMID= Firm 1 ID, CPFIRMID= Firm 2 ID

So when FIRMID equals to own firm then this is an own order. When CPFIRMID equals to own firm then this is an incoming order.

The STATUS field will contain the current value of an order status with description of that values provided by the TOrderStatus enumeration variable:

O	-	Active
M	-	Matched (accepted)
W	-	Withdrawn
F	-	Rejected by counterparty
R	-	Rejected by the Trading System
C	-	Cancelled by the Trading System

When sending a “hard quote” to all the participants in order to put it into the market negdealbook set the value of CPFIRMID to “\*Bcem” (use the following constant in C++: `char *cp_firm_all = "\x2A\xC2\xF1\xE5\xEC"`).

To send a “soft quote” to all the participants in order to put it into the market quotebook use the EXT\_REPO\_QUOTE transaction.

Note: the market interface document also mentions REPO\_NEGDEAL and REPO\_QUOTE transactions that were used for simplified (legacy) REPO trades on trading boards which no longer exist.

2. If the negdeal order receiver decides to accept it then the EXT\_REPO\_NEGDEAL transaction should be used. In order for the two negdeal orders to be matched all the negotiated parameters (SECBOARD, SECCODE, SETTLECODE, REFUNDRATE, REPORATE, REPOTERM, LOWERDISCOUNT, UPPERDISCOUNT) must be the same.

It is important to specify the same set of values QUANTITY/REPOORDERVALUE/STARTDISCOUNT as in the initial order. Use the REPOENTRY field of the NEGDEALS table to find that combination. Values in that field are provided by the TRepoEntry enumeration variable:

4	-	REPO Value+Volume
5	-	REPO Value+Discount
6	-	Volume+Discount
7	-	REPO Value
8	-	Volume

The initial order number can be quoted in the ACCEPTEDORDERNO field. In this case a particular incoming order will be matched. Otherwise if there are several identical incoming orders, the oldest one will be matched.

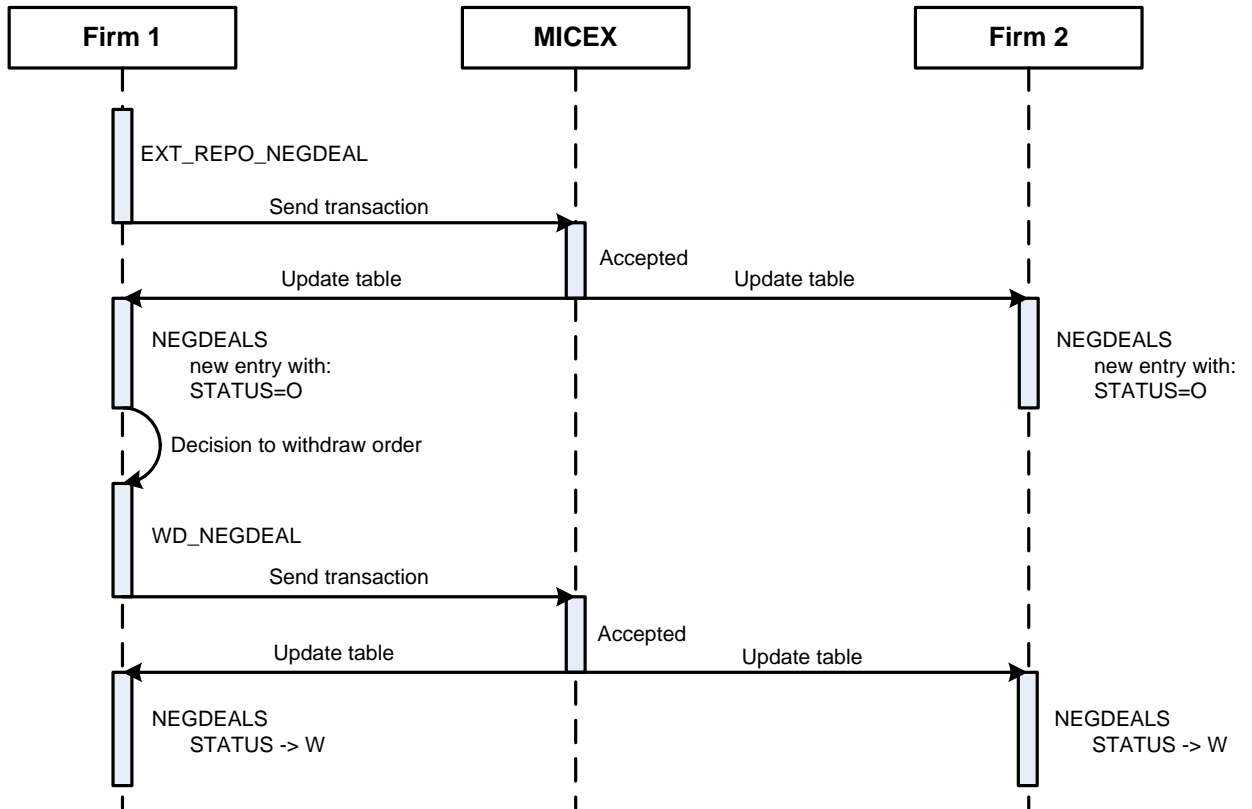
3. When two orders are matched then the value of the STATUS field in the NEGDEALS table of both firms will change to ‘M’.

At the same time a new record will be added to the TRADES table of both firms.

It is important to remember that the NEGDEALS and TRADES tables should be opened only once during one connection session. If a table is closed and reopened then only new entries will appear in it and in order to retrieve all the previous entries reconnection will be required.

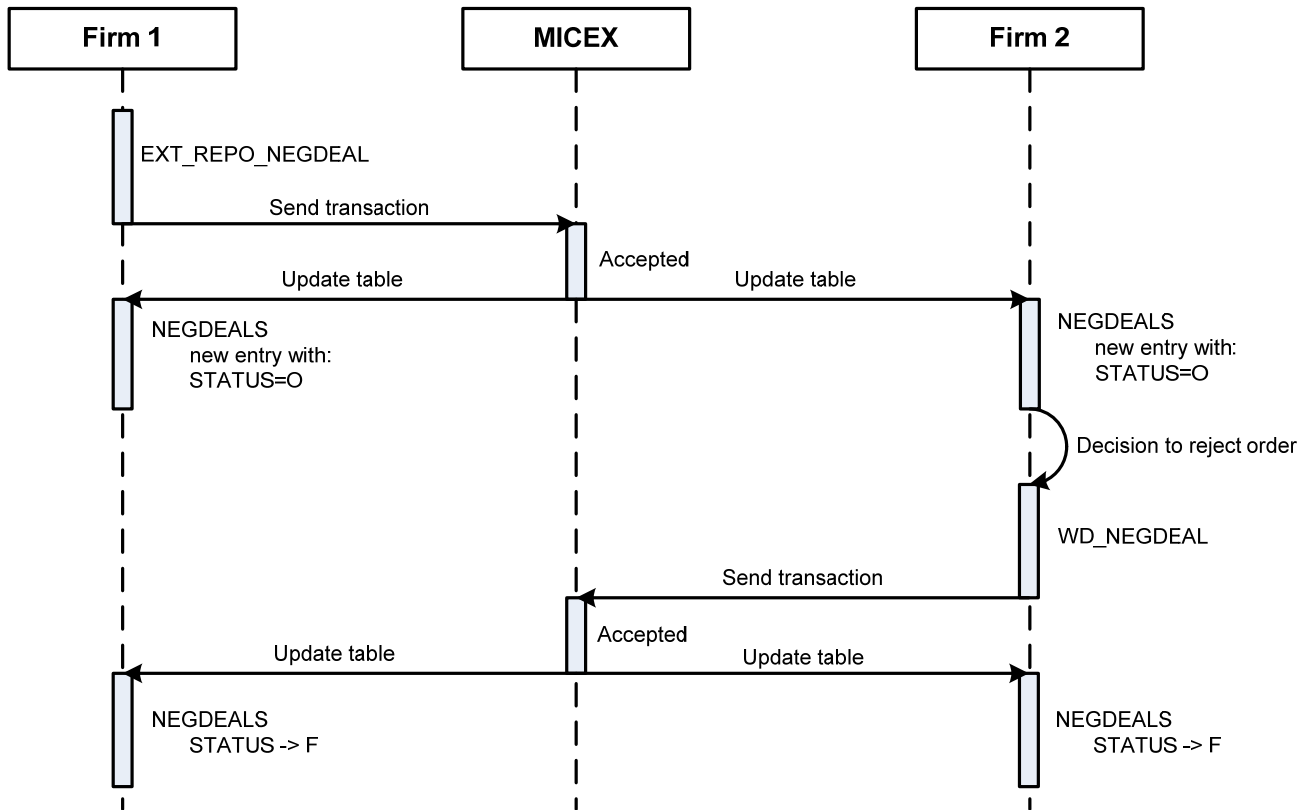
## Order Withdrawal

If the negdeal order initiator decides to withdraw it then the WD\_NEGDEAL transaction should be used. After its execution the STATUS of the order in the NEGDEALS table will change to 'W' for both firms.



## Order Rejection

If the negdeal order receiver decides to reject it then the WD\_NEGDEAL transaction should be used. After its execution the STATUS of the order in the NEGDEALS table will change to 'F' for both firms.



## Trade Settlement

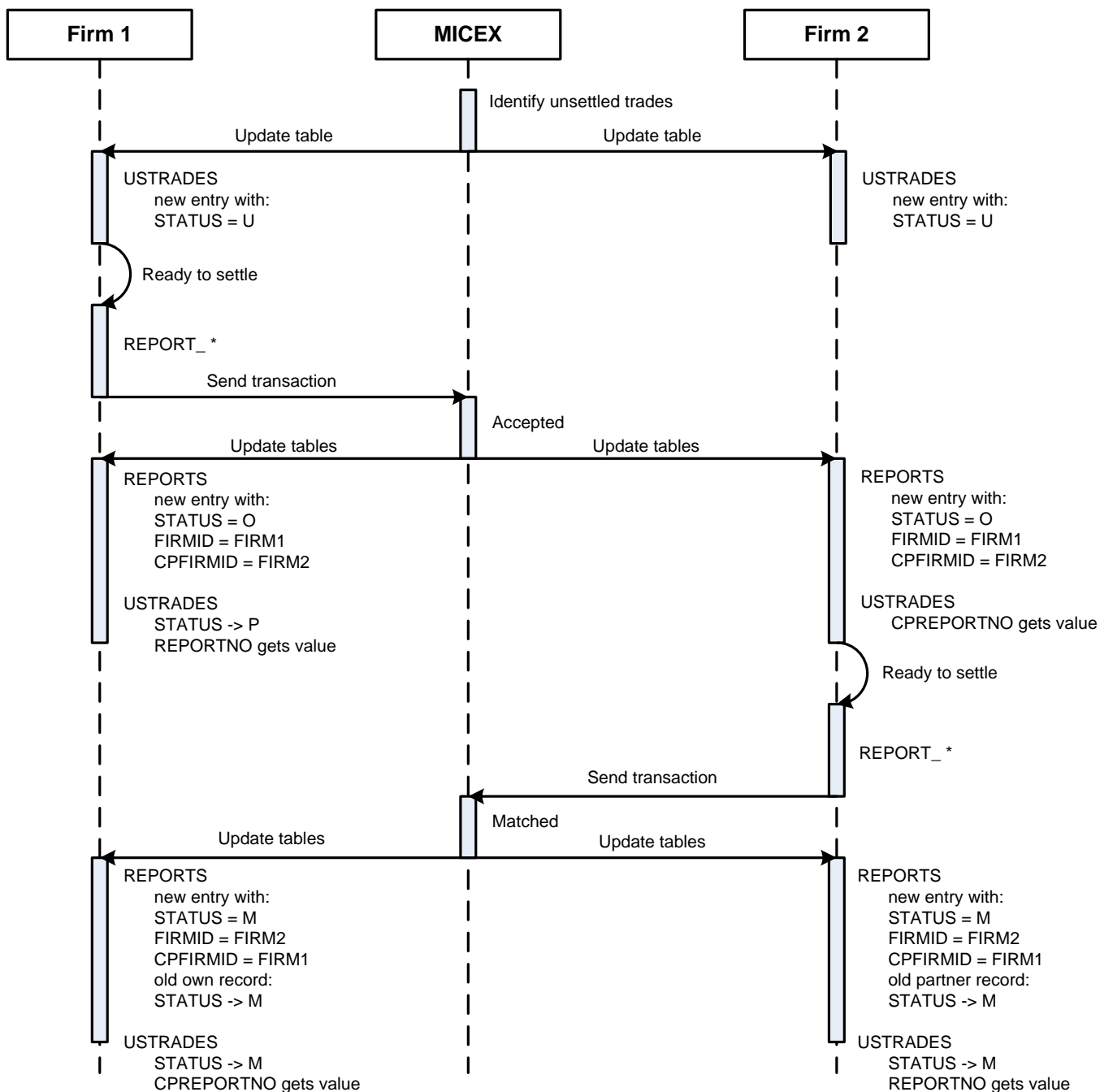
Second part of all the REPO trades must be settled manually by sending a settlement report (settlement instruction). After the counterparty accepts this report by sending a counter-report then the trade will be settled.

For trades with S0, S01, S02 settlement codes it is also required to send a settlement report for the first REPO leg on the corresponding day (today, tomorrow, after tomorrow, respectively).

All the trades to be settled are listed in the USTRADES ('unsettled trades') table. For the type 'S' settlement codes the entry for the second leg settlement appears only after the reports for the first leg settlement are matched.

It is possible to settle trades before the settlement due date. In order to check when a trade should be settled use the `SETTLEDAY`, `URGENCYFLAG` or `NEXTDAYSETTLE` fields.

The settlement workflow involves the followings steps:



1. Firm 1 sends one of the transactions which name starts with REPORT\_\*. The choice of a particular transaction depends on the required settlement time (end of day or immediately) and on the number of trades to be included into one report in order to settle the net obligations. When several trades are included into one report they must have the same TRDACCID, CPFIRMID, CPTRDACCID.

2. New records will be added into the REPORTS tables of both parties.

Like with negdeal conclusion, when FIRMID equals to own firm then this is a sent report. When CPFIRMID equals to own firm then this is an incoming report.

At the same time the following changes will be made to the USTRADES table:

STATUS field on the report sender side will change to 'P';



REPORTNO and CPREPORTNO of the report sender and recipient, respectively, will show the report number. If several trades have been included into one report then all of them will have the same (CP)REPORTNO.

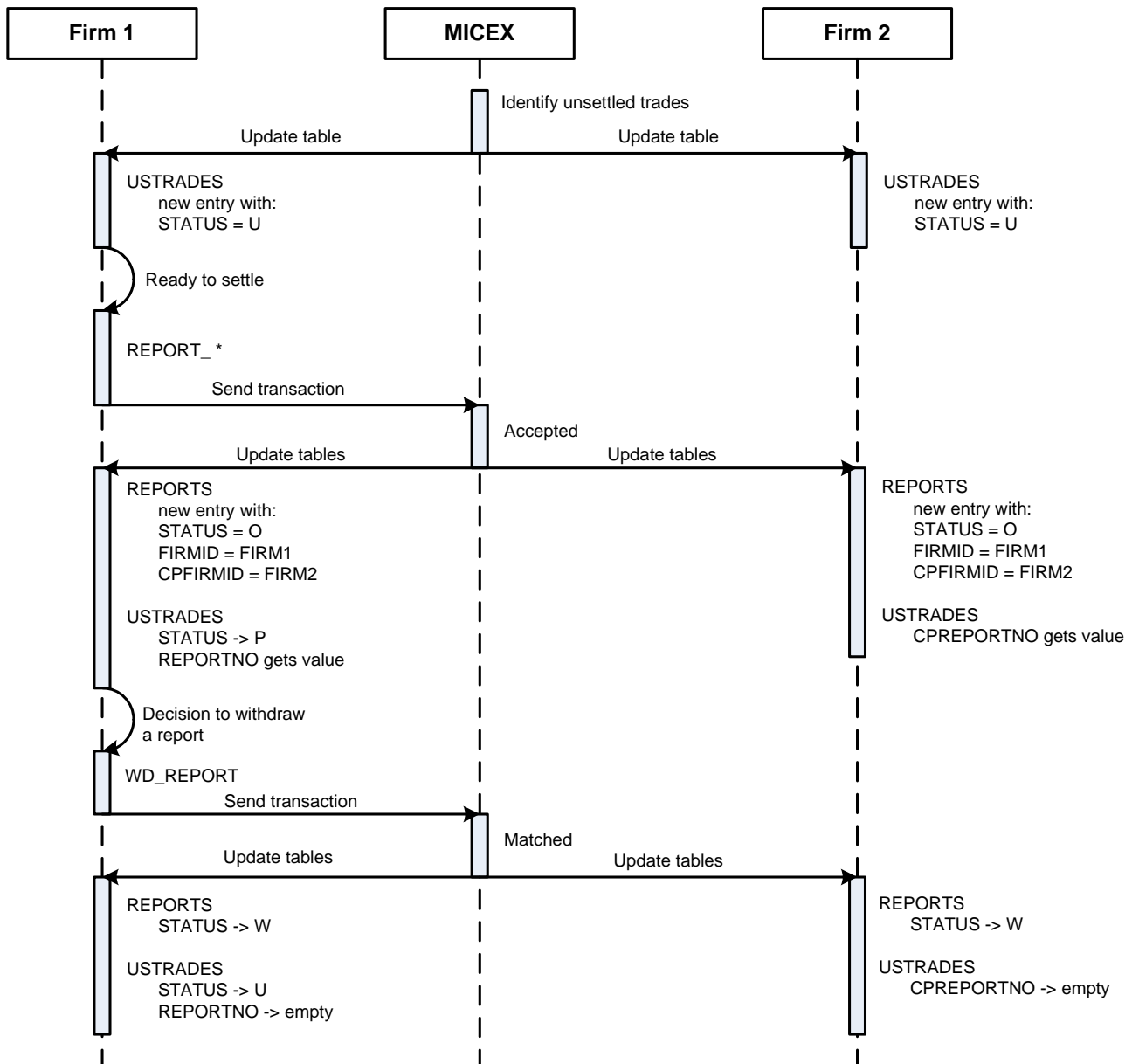
3. When the Firm 2 is ready to settle its obligations on trades that have already been included into the Firm 1 report (i.e. to 'accept' the report) then the REPORT\_\* transaction should be sent. That report must include exactly the same set of trades as in the incoming report. In order to figure out that set of trades use the CPREPORTNO field of the USTRADES table.

4. After two counter-reports are matched the STATUS fields in the USTRADES and REPORTS tables will change to 'M' for the both parties.

### Settlement Report Withdrawal

If the report sender decides to withdraw it then the WD\_REPORT transaction should be used.

After its execution the STATUS of the trade in the USTRADES table will change back to 'U', REPORTNO and CPREPORTNO fields will be cleared and the STATUS in REPORTS table will change to 'W'.



## **Margin Call Settlement**

If REPO trade contains upper and/or lower discount values and in the beginning of the day the recalculated current discount value exceeds one of these values then the margin call is generated. Current discount value is determined as the ratio of the value of collaterals (at the last day's market price) to the value of obligation as per given day; on the day of the first leg execution obligation equals to the total value at the buy price, on the second leg execution day it equals to the total value at the buyback price.

When the market price goes down so that the current discount value is lower than the lower discount value then the initial seller will have an obligation to transfer money to the counterparty.

When the market price goes up so that the current discount value is higher than the upper discount value then the initial buyer will have an obligation to transfer securities to the counterparty.

Entries on margin calls appear in the USTRADES table with TYPE='D'. These entries appear in the tables of the both trade parties, but the margin call settlement is the unilateral operation which does not require any actions from the receiving party. The receiving party will see OPERATIONTYPE='K' and the party with obligations will see OPERATIONTYPE='D'.

The value of the STATUS field for the second REPO leg in the USTRADES table will be equal to 'G' for those trades that have unsettled margin calls.

Margin calls are settled by sending any of the COMPLEX\_REPORT\_\* transactions with the value of the BUYSELL field set to the same value as the BUYSELL field in the USTRADES table.

After the obligation is settled then the STATUS field of the margin call entry in the USTRADES table will change from 'U' to 'M' and for the second REPO leg it will change from 'G' back to 'U'.

## **Margin Call Cancellation**

If bilaterally agreed then a margin call may be cancelled.

The cancellation workflow involves the following steps:

1. One party sends the CANCEL\_TRADES transaction.
2. The STATUS field for this margin call in his USTRADES table will change to 'N' and the REPORTNO field will contain the unique ID of the cancellation report. The other party will get the cancellation report number in the CPREPORTNO field.
3. The other party needs to send the matching CANCEL\_TRADES transaction.
4. When two cancellation reports are matched then the STATUS of the margin call entry in the USTRADES tables of the both parties will change to 'W' and the status of the corresponding second REPO leg will change from 'G' back to 'U'.

## **OTC REPO Trades with Central Bank**

The key specifics of the OTC REPO trades with Central Bank as compared to the ordinary market REPO is that their conclusion in the Trading System does not lead to any settlement obligations right after the trade conclusion event. After its conclusion in the Trading System the OTC REPO trade should be accepted by the both trade parties through the National Depository System's Electronic Document Exchange mechanism. When this is done then both parties should explicitly confirm the trade in the Trading System using the CONFIRM\_REPORT transaction. Right after the moment when two counter-reports are matched the settlement obligations will be generated and the OTC REPO trade will have to be settled like any other REPO trade.

Trades that should be confirmed have the CONFIRMED='N' value in the USTRADES table. When a party sends the CONFIRM\_REPORT transaction then the value of this field in his own USTRADES table changes to 'Y' and the CONFIRMREPORT field will have the unique ID of that confirmation report. The counterparty will get CPCONFIRMED='Y'.

When both CONFIRMED and CPCONFIRMED fields equal to 'Y' then settlement reports can be sent.