

MCTradesSGX

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Related Documents:

MC SecurSGX.pdf – SGXCLEAR Secur system this document details how to install, configure and run MC SecurSGX.

Note: MCTradesSGX uses MC SecurSGX to communicate with the SGXCLEAR system.

This Document:

MCTradesSGX.doc – MCTrades for the SGXCLEAR Secur settlement system - this document details how to install, configure and run MCTradesSGX.

Revision:

27/08/2009 – M.G. – 193SGXE01 – Updated with Recommended Settings from Compliance Tests.

MAX_LOGON_ATTEMPTS = 3

SGX_PASS_BASE = VWXYZxxx

10/06/2009 – M.G. – 193SGXE01 – initial draft SGXCLEAR 19.3.

Similar MCTrades Products:

The MCTradesASX system supports extracting trade information from the ASX ITS system and similar MCTrades products exists for other exchanges:- ASX/SFE, SGX, HKEX.

1. Running MCTradesSGX:

You will need a connection to SGXCLEAR (19.3) system.

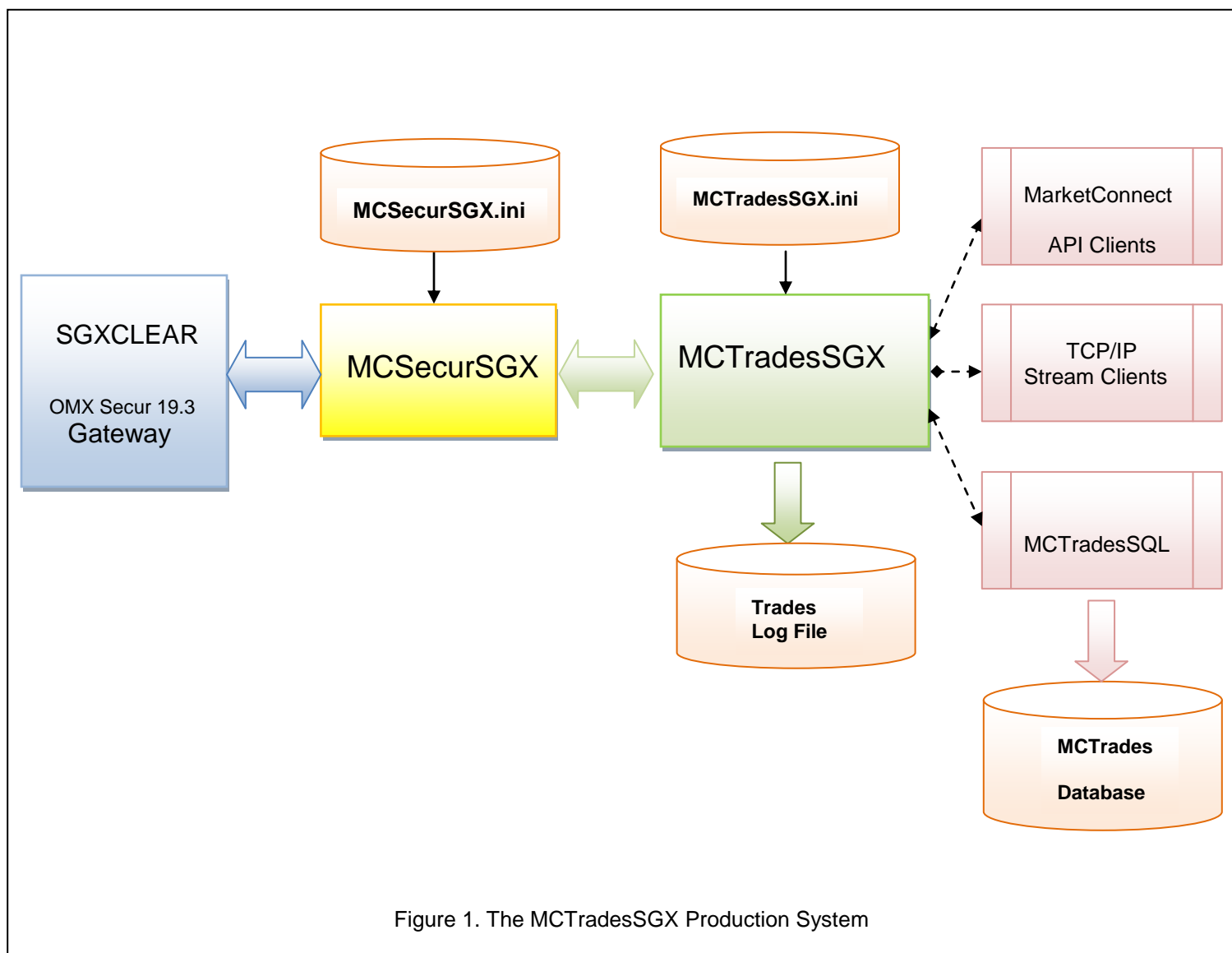


Figure 1. The MCTradesSGX Production System

1.1 Requirements:

To run MCTradesSGX you will need the following:-

1. A Windows NT computer to run the application and a running copy of MC SecurSGX. The MCTradesSGX application can run on the same computer as your MC SecurSGX or it can be run on a different computer.
2. To request SGXCLEAR data you need a connection to SGXCLEAR and an SGXCLEAR User ID and Password. (The relevant gateway/port must be configured in MC SecurSGX.ini)

This version of MC Secur / MCTrades is for use with the SGXCLEAR only. Other exchanges such as ASX, SFE, HKEX and SGX are supported via similar products.

1.2 MC SecurSGX:

Details of how to install and configure MC SecurSGX are found in MC SecurSGX.pdf.

1.3 Install Process:

You should receive the following files:-

Windows MCsecurSGX.exe, MCsecurSGX.ini
 MCTradesSGX.exe, MCTradesSGX.ini

These files need to be copied to the directory where you want to run MCTradesSGX and this can be any directory.

1. Edit MCsecurSGX.ini, install MCsecurSGX as per MC SecurSGX.pdf.
2. Edit the MCTradesSGX.ini file to set 'site specific' parameters.
(See 2. *MCTrades Configuration* below).
3. Ensure that the Market Connect Server is running. (MCsecurSGX.exe)
4. Run: MCTradesSGX or MCTradesSGX <filename.ini>
When not supplied, <the filename.ini> defaults to MCTradesSGX.ini.

Note: If for any reason MCTradesSGX is stopped and restarted during the day. It will recover previous captured trades from the local log file before it requests missing or additional trades from the SGXCLEAR. This speeds up the recovery process.



2 MCTradesSGX Configuration File:

Example – Lines starting with an asterisk are comment lines

```

* MCTradesSGX.ini
*=====
*CLIENTS_PORT    =9010
*=====
* Command String Clients -> MCtrades_cmd.doc
*=====
CMD_CLIENTS_PORT =9011
CMD_DEFAULT_ACCT =SG|Sxxx|
*=====
* Data Directory / Logging
*=====
LOG_PATH      =logs\
DATA_PATH     =data\
*
PASSWORD_DAYS =10
* Automatic password changing.
*MAX_LOGON_ATTEMPTS =7
* Optional limit on unsuccessful log on attempts.
LOG_QUERY_OUTPUT=YES
*=====
* SGX System Parameters
*=====
* MC_SECUR_SERVER - MCsecuSGX process for SGXClear Gateway connection.
*
MC_SECUR_SERVER =rjecom4
MC_SECUR_PORT_NO =7002
*=====
*SGXCLEAR Logons - can specify multiple login sessions here.
*=====
SGX_USER_ID     =DC1_Sxxx
SGX_PASSWORD    =1q2w3e4r5t
SGX_PASS_BASE   =DC1_Sxxx
*=====
* FILTERS
*=====
* Filters don't apply to SGX all outputs include all trades.
*=====
* OUTPUTS
*=====
OUTPUT=[TYPE:CF|FILE:data\SGXTRADE.@DATE....OUT|PORT:9012|HEADER:YES|
*
*=====
* QUERIES
*=====
QUERY=[TYPE:CM|DATA:POSITIONS|PORT:9003|HEADER:YES|
QUERY=[TYPE:CM|DATA:CLOSEPRICE|PORT:9004|HEADER:YES|
QUERY=[TYPE:CM|DATA:CLOSEPRICE|PORT:9006|HEADER:YES|ENTER_DATE:YES|
QUERY=[TYPE:CM|DATA:POSITIONS|PORT:9007|HEADER:YES|ENTER_DATE:YES|
*

```



2.1 Required Parameters - SGXCLEAR

MC_SECUR_SERVER =<hostname> - Name of host computer running the MCsecurSGX process. It can be run on the same machine as MCTradesSGX.

MC_SECUR_PORT_NO=<Port No> - TCP/IP Port number on which MCsecurSGX is accepting client connections, must match MCsecurSGX configuration parameter CLIENTS_PORT.

SGX_USER_ID =<SGXCLEAR User name> will be supplied by SGX.

SGX_PASSWORD =<Password> - Your Password for the above SGX user ID.

e.g.

```
MC_SECUR_SERVER    =ourMachine
MC_SECUR_PORT_NO   =7002
SGX_USER_ID        =ourUser
SGX_PASSWORD       =$password1
```

See also 5.1 Automatic Password Changing, 5.2 Automatic Password Changing - Common Problems (below).

2.2 Additional SGXCLEAR Users:

The system supports a number of SGXCLEAR sessions, but currently it is unlikely any customer will need to use this facility.

```
SGX_USER_ID        =<user2>
SGX_PASSWORD       =<password2>
```

Note: When additional users are configured sessions are number 0..n in the order they appear in the .ini file. In that situation RJE recommends using user name rather than the session no to direct commands to particular sessions.

2.3 Client Parameters – MC API :

CLIENTS_PORT =<Port no> - The TCP port MC API clients will use to connect to MCTrades. (Legacy only – optional but should be specified otherwise it will default to 9000)

2.4 Client Parameters – Command Strings :

CMD_CLIENTS_PORT =<Port no> - The TCP port command string clients will use to connect to MCTrades.

CMD_DEFAULT_ACCT =<account prefix> - allows accounts to be sent in an abbreviated form.

```
CMD_CLIENTS_PORT =9011  
CMD_DEFAULT_ACCT =SGX|Sxxx|
```

This setting does is of limited use in the SGXCLEAR environment, no useful client command transactions are currently supported.

2.3 Other Additional Parameters:

Controlling the directories to which log and data output files are written, these are optional, but it is a good idea to specify these settings.

DATA_PATH=<directory> - location where MCTradesSGX data files are stored.

Example: DATA_PATH=data\

LOG_PATH=<directory> - location where MCTradesSGX log files are stored.

Example: LOG_PATH=logs\



2.4 Filters and Outputs:

2.4.1 Filters:

Filters don't apply to SGXCLEAR all outputs include all trades.

2.4.2 Outputs:

You can define a number of additional outputs which make data available in various formats via an output filename and/or a TCP/IP port.

Example: OUTPUT=[**TYPE**:CF|**FILE**:data\SGXTRADE.@DATE....OUT|**PORT**:9012|**HEADER**:YES|
 OUTPUT=[**TYPE**:CM|**FILE**:data\SGXTRADES.@DATE....OUT|**PORT**:9005|**HEADER**:NO|

TYPE: Output types are:-

- CM – Comma-Delimited format.
- CF - Single side comma-delimited – refer 2.4.3 below.

FILE: Identifies the directory location and output filename that will receive the output data stream. To produce an output filename containing the current date use “@DATE...” as part of the file name.

Example: **FILE**:data\SGXTRADE.@DATE....OUT|

PORT: **Optional, Identifies** the TCP/IP port to which a client program can connect to and receive the output data stream.

HEADER: **Optional**, to include the data record layout headers at the start of the output file, use the **HEADER: YES** option. The default is **NO** headers.

2.4.3 CF – Single Sided Secur Trades:

SGXCLEAR Trades are single-sided; in view of this we have developed a simplified single sided comma-delimited view.

In the MCTradesSGX.ini config line looks as follows:-

```
OUTPUT=|TYPE:CF|FILE:data\SGXTRADE.@DATE...OUT|PORT:9012|HEADER:YES|
```

(i.e the main difference is "CF" instead of "CM".

The header of this format looks as follows:-

```
country|S:2,exchange|S:4,market|S:4,inst_group|N:4,trade_date|D,seq_no|N:9,f_trade_no|N:9,rec_type|C,complete|C,status|S:4,value|N:18.2,price|N:10.4,order_id|N:20,quantity|N:9,tsnumber|N:9,can_tsn|N:9,time_trade|T,as_at_date|D,sec_code_l|S:33,comment|S:15,c_strike_price|N:10.4,c_cont_size|N:9,c_deal_num|N:9,c_gl_deal_num|N:9,c_trade_type|N:2,c_series|G:SERIES,f_account|G:ACCOUNT,f_party|G:PARTY,f_deal_src|N:3,f_oc_req|N:3,f_open_cl|N:3,time_received|T,time_processed|T,f_price_quot_ft|N:9,f_sycom_deal_no|N:9,f_buy_sell|C,f_ex_trd_typ|N:3,f_trading_code|G:USERCDE,f_user_code|G:USERCDE,f_as_at_time|T,f_instigant|N:3,f_cab_price_ind|N:3,f_clearing_date|D,f_ext_trade_fee|C,f_passthrough|S:32,f_user_id|S:32,f_session_no|N:3,f_orig_trade_no|N:9,f_comission|N:9,f_residual|N:9,f_csign_code|G:USERCDE,c_orig_series|G:SERIES,c_new_series|G:SERIES,f_pos_account|G:ACCOUNT,f_ext_seq_nbr|N:9,f_ext_status|N:9,f_ord_quantity|N:9,f_rem_quantity|N:9,f_orig_tt|N:3,f_mod_date|D,f_mod_time|T,f_trade_state|N:3,f_attention|N:3,f_account_type|C,f_nbr_held|N:20,f_nbr_written|N:20,f_tot_held|N:20,f_tot_written|N:20,f_last_trad_date|D,f_give_up_no|N:9,f_big_attent|N:9,f_give_up_mem|G:PARTY,f_give_up_state|N:3,f_le_state|N:3,f_instance|N:3,client|S:11,trade_venue|N:3,und_nom_val|N:20,und_nom_dec|N:3,unique_key|S:40,t_plus_1|C,*
```

Note: The unique key field can use used as a unique database key.



2.5 Optional Parameters:

SHUT_TIME = <HH:MM>: -

Overrides shutdown time this is the time at which MCTradesSGX shuts down to facilitate overnight rollover. Refer *-3 Daily Operations:* below for more details.

If this parameter is not set the default shutdown is 23:30.

SHUT_TIME=hour: min (e.g. SHUT_TIME:23 30 = default)

Note: You should be careful when setting shutdown / wake up times, the system date should change between shutdown and wake up. When shut hour == 23; the program will wait for a change of date before commencing processing for the next day. Test very carefully if using any other value and/or contact RJE.

WAKE_TIME=<HH:MM>: -

Overrides wake up time this is the time at which MCTradesSGX wakes up following an overnight rollover. Refer *-3 Daily Operations:* below for more details.

If this parameter is not set the default wake-up is 07:00.

WAKE_TIME=hour min (e.g. WAKE_TIME=07:00 = default)

NO_PASSWORDS=YES

Suppresses the writing of user passwords to MCTradesSGX*.log files.

MAX_LOGON_ATTEMPTS =<no>

Example: MAX_LOGON_ATTEMPTS =7

Optional limit on unsuccessful log on attempts, it may be required by SGX.

Recommended Setting:-

MAX_LOGON_ATTEMPTS = 3

We have added new code for waking early and getting :- -2023 Message :Logon Disabled: errors while the SGX is running overnight batch, these don't count as failed login attempts. The SGX requires our application to exits after 3 serious logon errors.



2.6 Processing Data for Previous Days:

2.6.1 Processing a .Trades file:

This facility is used to achieve a rerun of MCTradesSGX for a particular date, including testing/rerunning client programs. All data is taken from the .trades file, it can be run for any date provided you have a .trades file for that data. It does not connect to the SGXCLEAR system.

Processing a dated .trades file into signal files D=<date>.

Example: D=20061205

This facility is only available as a command-line option.

```
MCTradesSGX D=20061205
```

```
MCTradesSGX <iniFile> <dir> D=20061205
```

2.6.2 Requesting Trades from SGXCLEAR:

This facility requests trades from SGXCLEAR via CQ58 it must have a valid user logon and connection to SGXCLEAR, it goes through the normal start up sequence but only get trades for previous days, it does not request and process trade broadcasts.

The date in this instance is a Clearing Date.

Obviously, you use this facility when MCTradesSGX may not have obtained all trades for a Clearing Date.

Requesting trades from SGXCLEAR via CQ58 - P=<date>.

Example: P=20061205

This facility is only available as a command-line option.

```
MCTradesSGX P=20061205
```

```
MCTradesSGX <iniFile> <dir> D=20061205
```



2.7 Command Line Arguments:

You may use the following command line arguments to override the settlings specified in the .ini file. This is intended for use when testing or in unusual circumstances.

Usage: MCTradesSGX <iniFile> <dir> -v [-dp path] [-lp path] [D=date][P=date]

- : -v Verbose mode
- : -dp Data Path
- : -lp Log Path
- : -d=date rerun previous days trades

Verbose Mode – causes MCTradesSGX to output/log a message when storing each SGXCLEAR trade, it may slow MCTradesSGX down (very slightly if at all).



3. Daily Operations:

Once started MCTradesSGX continues to run unless stopped manually.

MCTradesSGX detects that it has retrieved all data from the configured markets.

MCTradesSGX detects that all data has been received from all markets and clients that have retrieved the last trade for today for their set of data, will be informed that all trade data for today has been received .

Clients would be expected to close their connection to Market Connect when they have received all trades for today. After a reasonable time period (5 minutes) has expired MCTradesSGX will close connections to any clients that remain active. (This does not apply to clients accessing the system via files).

Shutdown/rollover is normally driven by MCTradesSGX detecting that it has received all trades for all markets. However, MCTradesSGX will also shutdown at particular shutdown time, this can be varied via the SHUT_TIME: parameter.

MCTradesSGX then waits for a wake up time when it will commence processing data for the following day. However, if the wake up hour is set to zero MCTradesSGX will exit after the nightly shutdown.

Note: trades are stored in a dated “. trades” file and only one day’s trades are kept (in memory) at any given time. Hence, it is necessary to clear out trades for the previous day. Because of this, it is important that the wake up occurs in the morning of each day (after midnight) or the system will process data for the wrong date.

For the reasons above, the date & time on the computer running MCTradesSGX should be correct to a reasonable level of accuracy (e.g. + or - 10 minutes).

However, once is started MCTradesSGX does not need to be run each day, it will keep running unless it or the computer is shutdown, or some other serious problem arises.

MCTradesSGX should continue to run if and or when the market connect server (/MCsecurSGX) is shutdown and restarted.



4. Expiry of the SGXCLEAR Password:

Customers should be aware:-

- 1) When the SGX sets up a new SGXCLEAR user for you, the password will probably be pre-expired.
- 2) The SGXCLEAR Password can expire.

4.1 Automatic Password Changing:

Common Parameters:

PASSWORD_DAYS =10 (Default 5 days)

This option sets the days to the expiry limit applies to automatic password changing for all program users. Default is 5 days. Passwords are automatically changed when 'Days To Expiry' is <= this setting.

SGXCLEAR Parameters:

SGXCLEAR_PASS_BASE =user1

Specifying an SGXCLEAR_PASS_BASE here enable automatic password changing. Passwords are stored in :- [data]\MCTradesSGX_password_<username>.ini..

Recommended Setting:-

SGX_PASS_BASE =VWXYZxxx

where xxx is you broker number - the SGX system does not allow repeating characters in passwords. We use 'A' to 'T' to replace digits in the date/time string - your pass base should not use 'A'..'T'.

SGXCLEAR_PASSWORD is only used when the password.ini file does not exist, however this configuration setting must remain in the file.

Automatically generated passwords are in the form BASE_<date>_<time>and SGXCLEAR password base will be truncated if longer than 16 characters.



Additional SGXCLEAR Users: - You should set SGXCLEAR_PASS_BASE to a different value for each user.

4.2 Automatic Password Changing - Common Problems:

Once automatic password changing is established, passwords are created as required and stored in a password ([data]\MCTradesSGX_password_<username>.ini) file.

MCTradesSGX will use the user ID and password stored in this password file if it exists. If this password file doesn't exist, MCTradesSGX will use the parameters settings (SGXCLEAR_USERID and SGXCLEAR_PASSWORD) stored in MCTradesSGX.ini file.

Therefore if you need to change a logon user or password then you have a number of options:

If you are USING the automatic password option you have 2 options:

1. Edit the password file (e.g. [data]\MCTradesSGX_password_<username>.ini) file to contain the new SGXCLEAR_PASSWORD. Restart the application and MCTradesSGX will then use the new settings in this password file and will continue to create and store new passwords in this password file as required.
2. Delete the password file (e.g. [data]\MCTradesSGX_password_<username>.ini) file and change the appropriate parameters settings (SGXCLEAR_USERID and or SGXCLEAR_PASSWORD) in MCTradesSGX.ini file. Restart the application and MCTradesSGX will use these new settings in the MCTradesSGX.ini file to logon and automatically create a new password file and will continue to create and store new passwords in this password file as required.

If you are NOT USING the automatic password option refer to 5.3 Manual Password changing (below):



4.3 Manual Password Changing:

If a password is expired MCTradesSGX will be unable to get SGXCLEAR data, it will stop running raising a fatal error alert.

You need to change the SGXCLEAR user password to restart the process.

You should also periodically monitor 'Days To Expiry' for your ITS user password or institute some other procedure to avoid nasty surprises.

If required, RJE can supply a program which can be used for password changing.



5. Product Extensions – SGXCLEAR Secur:

MCTradesSGX allows customers to develop applications to perform various OM Secur settlement transactions these are detailed in *5.1 SGXCLEAR Secur Transactions* below.

As well, customers can connect to various ‘Query Ports’ to retrieve additional types of settlement information, this is detailed in *5.2 SGXCLEAR Secur Queries* below.

5.1 SGXCLEAR Secur Transactions:

A number of OM Secur transactions are currently available including:-

- Close Out
- Transfer

Details can be found in **Market Connect Trades – Command Strings – MCTrades_cmd.doc**

However in the SGXCLEAR environment, no useful client command transactions are currently supported.

5.2 SGXCLEAR Secur Queries:

MCTradesSGX can also be configured to issue particular queries on behalf of a client when that client connects to a particular port.

The results of the query are forwarded to the client with/without a comma-delimited header as per the current TCP/IP trades streams.

The best way to understand what your client application will receive is to make a Telnet connection to the port in question and view the results.

The following examples show how to configure the available queries:-

- QUERY=|TYPE:CM|DATA:POSITIONS|PORT:9003|HEADER:YES|
- QUERY=|TYPE:CM|DATA:CLOSEPRICE|PORT:9004|HEADER:YES|
- QUERY=|TYPE:CM|DATA:CLOSEPRICE|PORT:9006|HEADER:YES|ENTER_DATE:YES|
- QUERY=|TYPE:CM|DATA:POSITIONS|PORT:9007|HEADER:YES|ENTER_DATE:YES|

Note: ENTER_DATE:YES means that the client application will supply a query date, where the above queries must supply a date field; we use the current business date.

POSITIONS = Position Information (CQ3) – obtains position information for all clients for all configured SGXCLEAR Secur users.

CLOSEPRICE = Closing Prices – Query Fixing Value (CQ8) – Obtains fixing value information for all configured SGXCLEAR Secur users.

****END**** is sent at the end of all query data, this is also sent if data is not currently available (system starting up etc).

6. Troubleshooting:

6.1 Logon Problems:

Refer - 5.2 Automatic Password Changing - Common Problems.

When you get a new user from the SGX or the SGX changes your password, the password will be expired.

Automatic password changing will automatically handle the situation provided a password file with an old password is not present.

6.2 Reprocessing Data From Previous Days:

MCTradesSGX has some ability to process data from previous days refer 2.8 Processing Data for Previous Days.

6.3 Network/Connection Issues:

- Check that MCsecurSGX is running.
- Ensure the MCsecurSGX version (e.g. 193SGXE01) matches the MCTradesSGX version (e.g. 193SGXE01).
- Try a telnet connection to SGX_SECUR_GATEWAY and SGX_SECUR_PORT referenced in MCsecurSGX.ini.

6.4 General Information:

The MCTradesSGX log file MCTradesSGX_<date>_<time>.log provides useful information about the behavior of MCTradesSGX.

RJE Technical support will typically request a copy of this log for logon/startup and network issues.