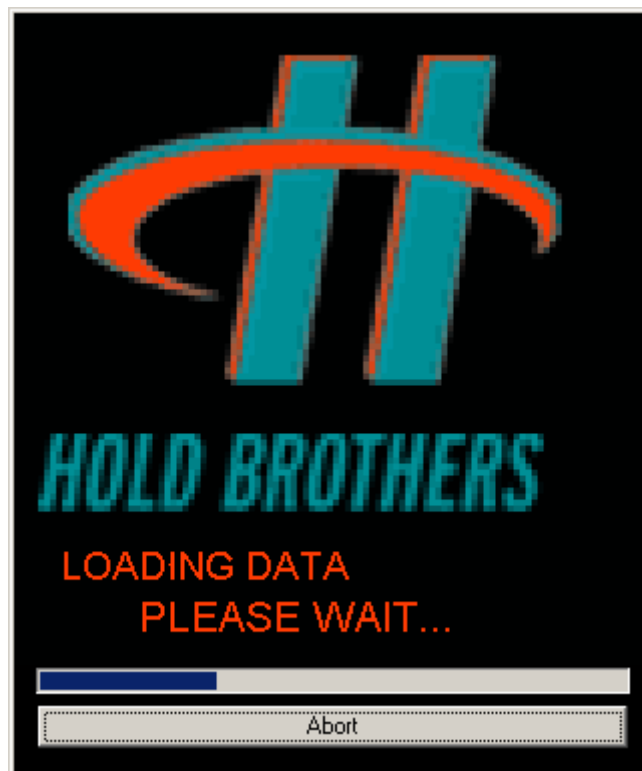


RISK MANAGER

Release Version: 31.7.2 (Excel) and 31.7.3

User Documentation
Revision 1.0



Tuesday, May 23, 2006

TABLE OF CONTENTS

RELEASE NOTES

MANDATORY RISK MANAGER SOFTWARE UPGRADE FOR INTERNAL USERS.....	1
ACTIVE RISK MANAGER DIALOG.....	2
ACTION RESPONSE DIALOG.....	2
POSITION DIALOG.....	3
EXCEL VERSION.....	3
IMPORTING TRADER DATA.....	4
EXPORTING ALL TRADERS VIEW.....	5
SETUP.....	6
SETTINGS DIALOG.....	6
DATABASE.....	6
POSITION SERVER.....	7
ROUTER.....	7
PREFERENCES.....	8
CHANGE PASSSSWORD.....	9

REVISIONS AND PREVIOUSLY RELEASED DOCUMENTATION

TRADER PROFILE DIALOG.....	10
TRADER BREACH DIALOG POPUP OPTION.....	10
TRADER MAINTENANCE.....	11
TRADER PRODUCTION MODE.....	12
TRADER GROUP PROFILE DIALOG.....	12
FIRM PROFILE DIALOG.....	12
FIRM MAINTENANCE.....	13
FIRM NUCLEAR MAINTENANCE.....	13
FIRM PRODUCTION MODE.....	14
POSITION VERIFICATION DIALOG.....	14
POWER LIMITS DIALOG.....	14
CUSTOM GROUPS.....	15
VIEWING THE CUSTOM GROUPS.....	16
CREATING A CUSTOM GROUP.....	16
POPULATING CUSTOM GROUPS WITH TRADERS.....	17
SUBSCRIBING TO EXISTING SHARED GROUPS.....	17
DELETING GROUPS AND REMOVING SHARED GROUPS.....	18
DELETING TRADERS FROM A SHARED GROUP.....	18
BUG FIXES.....	19

RISK MANAGER

RELEASE NOTES

Version: 31.7.2 (Excel) and 31.7.3

Date: 05/19/06

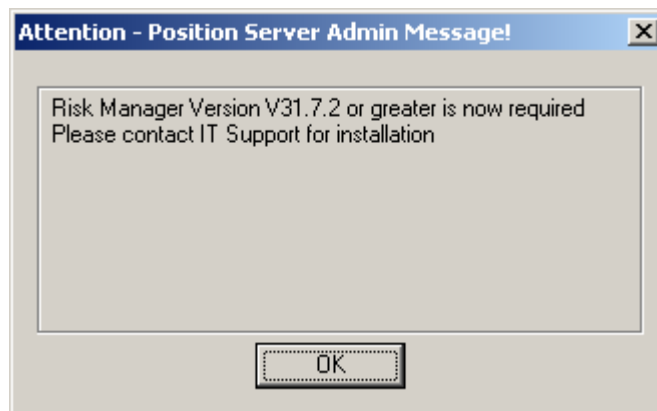
Type: Full Release

As with most existing Risk Manager features, documentation will be provided as features or modifications affect these yet to be documented areas building upon a comprehensive Risk Management user guide.

Risk Manager Version 31.7.2 uses the Excel libraries and requires Microsoft Office 2000 with Excel should importing or exporting to/from Excel be required, otherwise; Users not meeting the requirements should use Version 31.7.3, which contains *no* references to Microsoft Office 2000.

FEATURES

- **MANDATORY RISK MANAGER SOFTWARE UPGRADE FOR INTERNAL USERS:** All internal users must upgrade beginning Monday May 22, 2006. External users upgrades will be performed after successful internal Risk rollout.
 - New (v4.0.2) position servers (Pos1, Pos2, and Pos3) are being released with changes that will affect communications with previous Risk Manager versions. These new Position Server releases contain upgraded message formats requiring this new version of Risk Manager; old versions of Risk Manager will be prevented from connecting. Upon connecting an older version of a Risk Manager to a new Position Server a message instructing the user to upgrade to this latest release (v31.7.2) will be displayed.



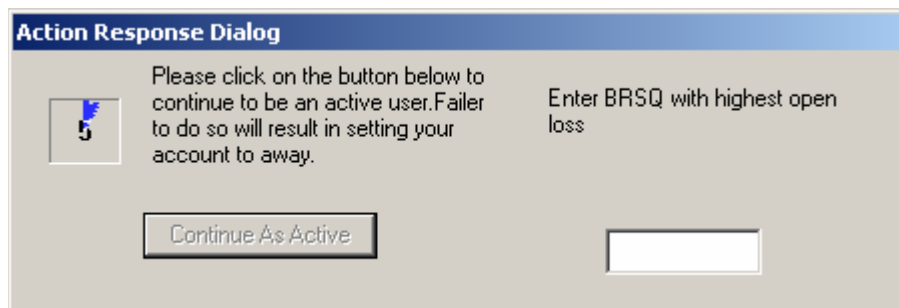
- The reconnect exclamation mark button will also be disabled preventing user from attempting to reconnect an unsupported Risk Manager version.



- **ACTIVE RISK MANAGER DIALOG:** This dialog is available only to users who are authorized to actively monitor risk. The dialog summarizes actively monitoring risk manager clients.

Users Actively Monitoring Risk									
User ID	IP Address	Port	Date	Conn.Time	StateTimer	Management	Version	HostName	
evergara	192.168.17.197	1291	Friday, May 19, 2006	15:48:27	00:01:37	Active	V31.7.2	LENAPE	

- UserID: Risk Manger Login ID.
 - IP Address: Risk manager's client IP Address.
 - Port: Position Server's Port number dedicated to that Risk Manager connection.
 - Date: Activity connection date.
 - Conn. Time: The clock time a user went active.
 - State Timer: A timer indicating the length of time a user has been actively monitoring risk without going inactive.
- **Action Response Dialog:** This input popup dialog requires the actively monitoring risk manager respond accurately in order to remain active. Failure to answer the question correctly within one minute causes the active monitoring state to end and triggers an email indicating this change of state to inactive.
 - The displayed questions are random and are based on the active view within the Risk Manager.

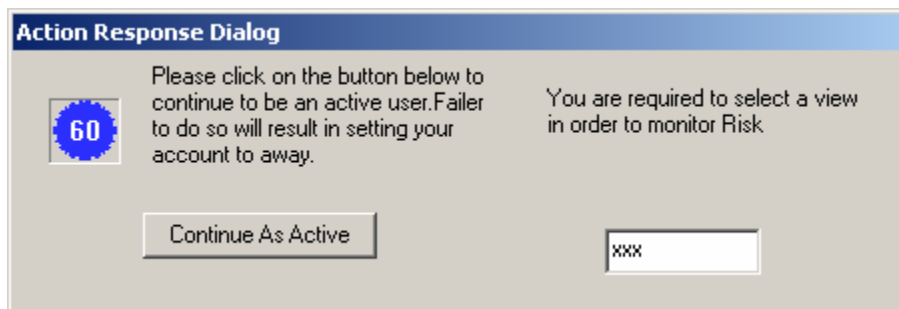


- Failure to answer the question correctly within the 60 seconds will deactivate the activity feature and trigger an email to risk alerts with information of the details.



"Risk Manager evergara has been set to away for not responding to the keep active popup."

- o The question may be changed and refreshed by hitting the escape key.
- o Questions are based on the currently active view and are random.



- o Once Continue As Active is pressed an email will be sent to Risk Alerts with the information that the active risk manager user has been set back to the actively monitoring state.

"Risk Manager evergara is set back to active. The time away was: 00:02:30."

- **Position Dialog:** Added an Open P/L column to the Trader's Positions dialog.
 - o By double clicking or by right clicking on a trader then selecting Show Position within a Trader View, a dialog will display the trader's current open positions.

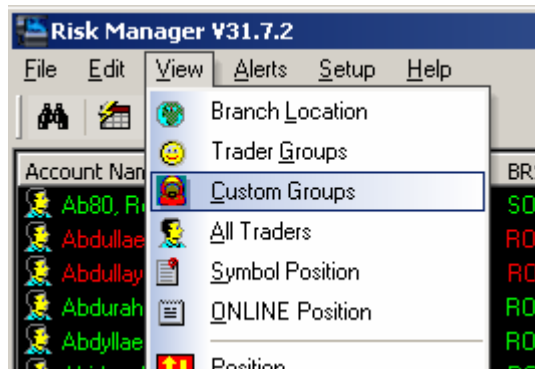
Stock	Qty	AvgPrice	P/L	Float. Buy	Float. Sell	Last Update	Current Price	Pos. Size	OpenPL	Market Val
GM	-12,000	24.310	0.010	0	0	13:39:08	24.30	53.46	120	291,600
MCO	1,000	54.750	UNCH	0	0	13:37:26	54.75	10.95	0	54,750
RIO	-2,000	47.160	0.010	0	0	13:39:14	47.15	9.44	20	-94,300

- o Open PL is calculated using the ((average price) - (current price)) * (# of shares).
- o Position Size is a percentage determined using the trader's Buying Power vs. the Current Market Value of the Position.

- **Position Verification Dialog:** Hitting F1 while focus is on the position dialog opens the verification Position Dialog. Data is gathered directly from the database and considered accurate. This dialog is used to verify the risk manager positions for a particular trader are accurate.

Stock	Qty	AvgPrice	Market Val
GM	-11,000	-24.312	267,430
MCO	1,000	54.750	-54,750
RIO	2,400	47.192	-113,260

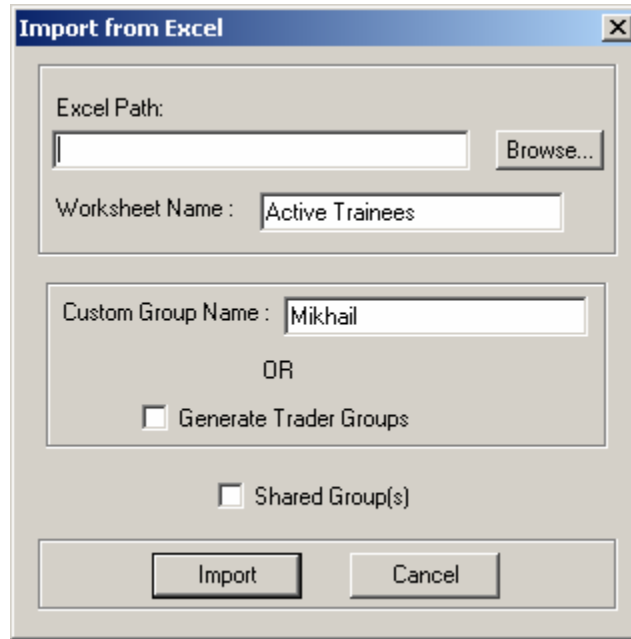
- **Excel Version:** The Risk Manager with Excel features allows the importing and exporting of traders to from the Risk Manager client. Microsoft Office 2000 is required in order to run this version of Risk Manager software. The latest release consists of two builds; **v31.7.2** has the Excel features and **v31.7.3 does not** have the Excel features.
- **Importing Trader Data:** Custom Controls may be populated by importing the trader data from an Excel Workbook Spreadsheet. The spreadsheet layout requires a strict format and a customizable Spreadsheet name.



- Importing data must be performed from within the Custom Groups view.



- Select Import From Excel to open the Import From Excel Dialog.



- The Excel path and filename may be populated using the Browse... button, which opens a dialog to help locate the Excel file to import.
- The Worksheet Name must correspond to the worksheet name that you wish to import into the Custom Groups view.
- Checking the generate Trader Groups will look up each traders group name for which they belong and create this new custom group and/or add them to this custom group of the same name.
- The Shared Group(s) optional checkbox is used to create these groups as shared groups so that others may also view this custom group.

- **Exporting All Traders View:** Exporting dumps the contents of the trader's view into an excel file located on the C:\ drive with the naming convention of the form *"RM_Wednesday, March 01, 2006.xls"*.

Trader	BRSQ	# of Trades	Capacity	Cum. Sh.
RAB80	SOAR	16	Customer	1
Abdullaev, Nodir	NABDULLA	20	Customer	7
Abdullayev, Atabek	AABDULLA	24	Customer	6
Abdurahmanov, ...	RABDURAH	7	Customer	2
Abdyllaeva, Barno	BABDYLLA	8	Customer	
Abidov, Nazim	NABIDOV	27	Customer	5
Agayev, Polad	PAGAYEV	93	Proprietary	41
Ahmedov, Maksud	MAHMEDOV	54	Customer	14

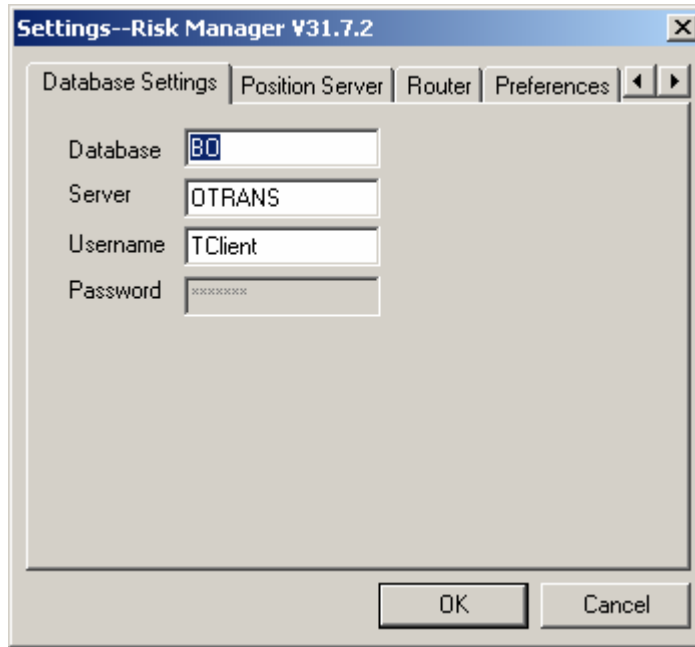
- Spreadsheet contains the same fields, as does the Risk Manager.

	A	B	C	D	E	F
1	Account Name	Trader	BRSQ	# of Trades	Capacity	Cum. Shar
2	Ab80, Ro	RAB80	SOAR	16	Customer	1600
3	Abdullaev, Nodir	NABDULLA	ROAN	20	Customer	7400
4	Abdullayev, Atabek	AABDULLA	ROAF	24	Customer	6200
5	Abdurahmanov, Rav	RABDURAH	ROAR	7	Customer	2400
6	Abdyllaeva, Barno	BABDYLLA	ROAG	8	Customer	800
7	Abidov, Nazim	NABIDOV	ROAC	27	Customer	5200
8	Agayev, Polad	PAGAYEV	ZHAP	93	Proprietary	41200

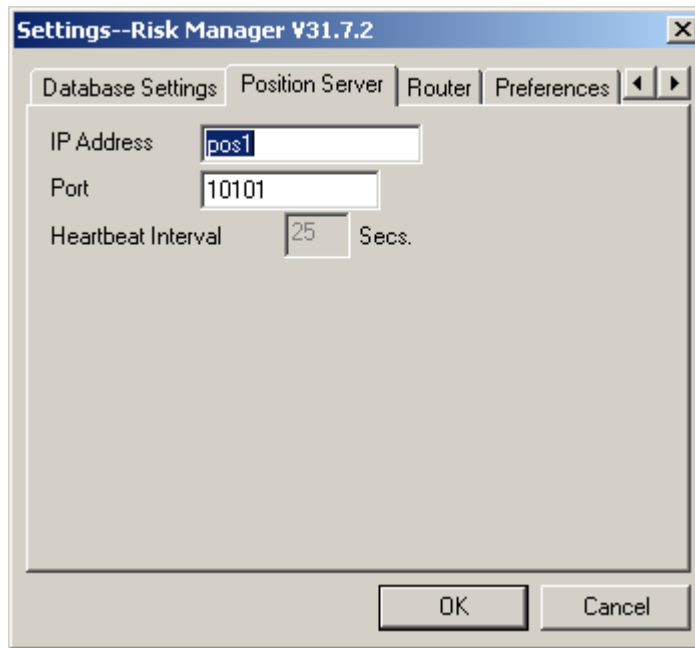
- **Setup:** Configuration of the Risk Manager's setup parameters may be performed using the Options dialog by selecting the appropriate tab. One may also open the



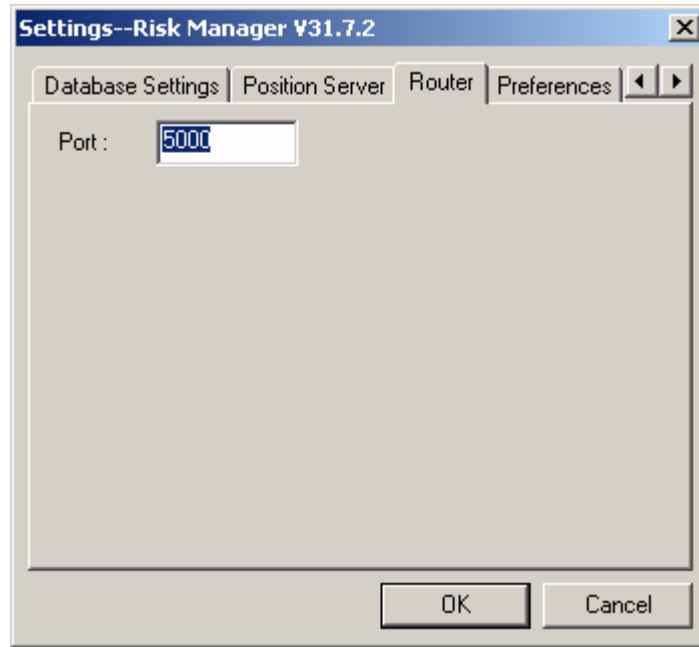
- One may also choose to select the setup option directly from within the Setup submenu items to open into that tab directly.
- **Settings Dialog:** Configuration of the Risk Manager's setup parameters may be performed using the Options dialog by selecting the appropriate tab.
 - The database settings are the first tab of the Settings tabbed dialog. These settings should not be changed.



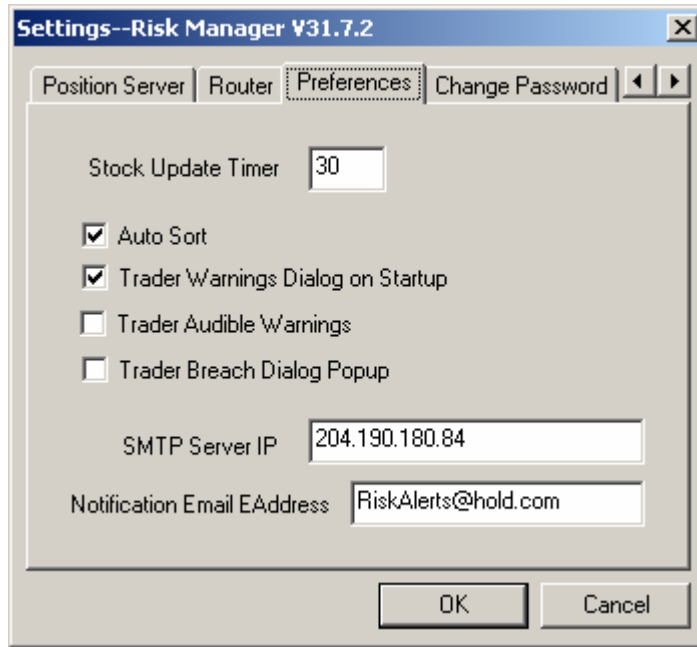
- The next tab is the Position Server Settings. For internal Risk manager users, Pos1, Pos2, and Pos3 are all acceptable servers to use in this configuration tab.



- Router settings are for the router port and should also be left to the default value.



- Stock Updates timer settings determine how often the trader's positions are refreshed with the latest stock prices.
- When Auto Sort is enabled, the Risk manager will resort the view according to the selected column each time a certain number of records are received or upon a certain amount of seconds pass, whichever happens first.
- Audible warnings are a wave files assigned to particular warning triggered based on predefined rules. Disabling this option keeps the Risk Manager silent, warning may still be observed in the Warning Dialog.
- Enabling the Trader Breach Dialog option causes the Trader Dialog to automatically pop open for a trader breaching his/her limits.
- SMTP Server IP should be set to its default value. This is the IP Address of the simple mail transfer protocol server.
- Notification email should also be set to the default value and is used primarily to send out emails from Actively Monitoring Risk Managers based on activity and Firm and Trader triggers.



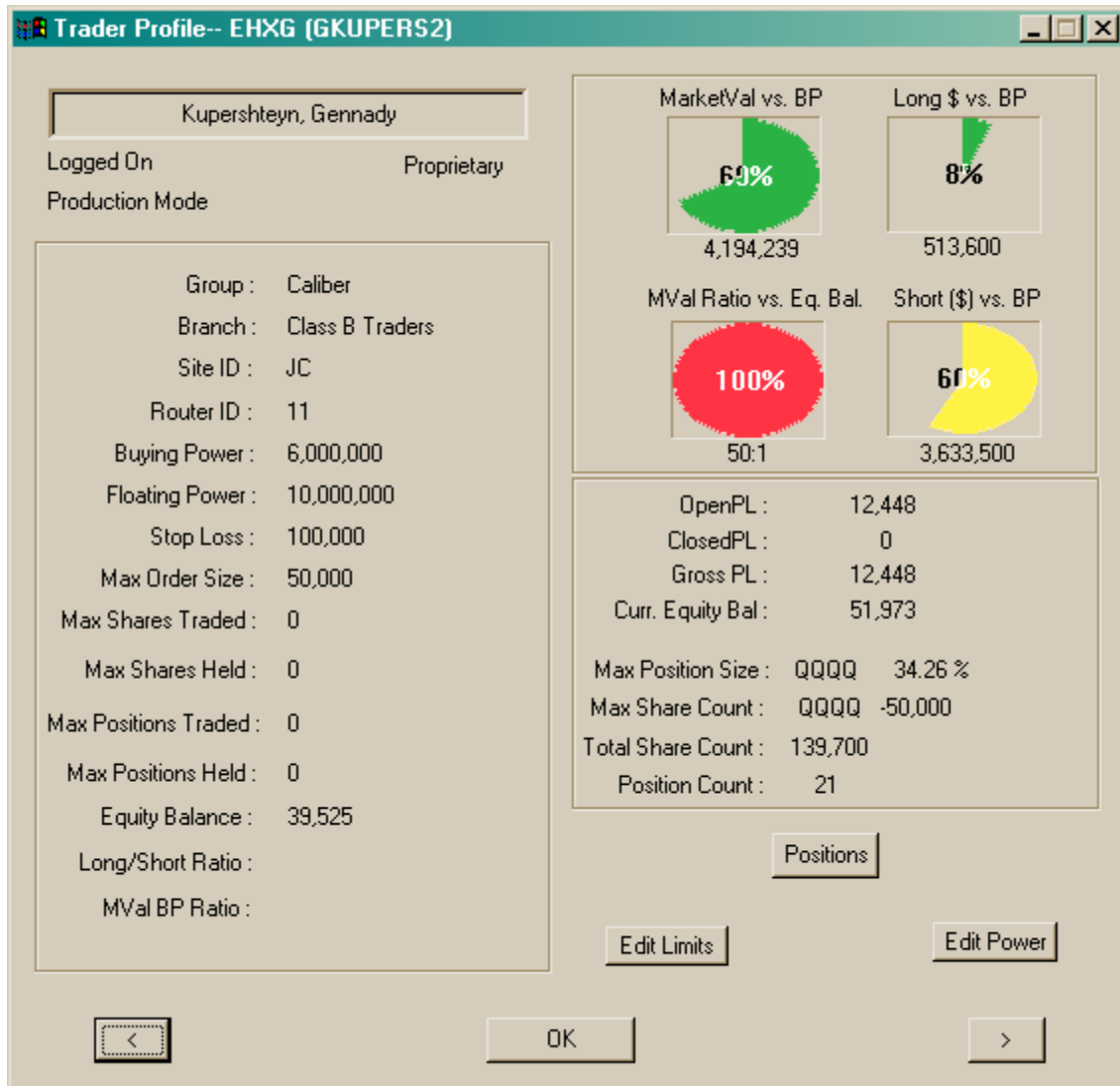
- o To change your password, use the Change Password tab. Type Old Password (current), new password and confirm the new password, then hit change.



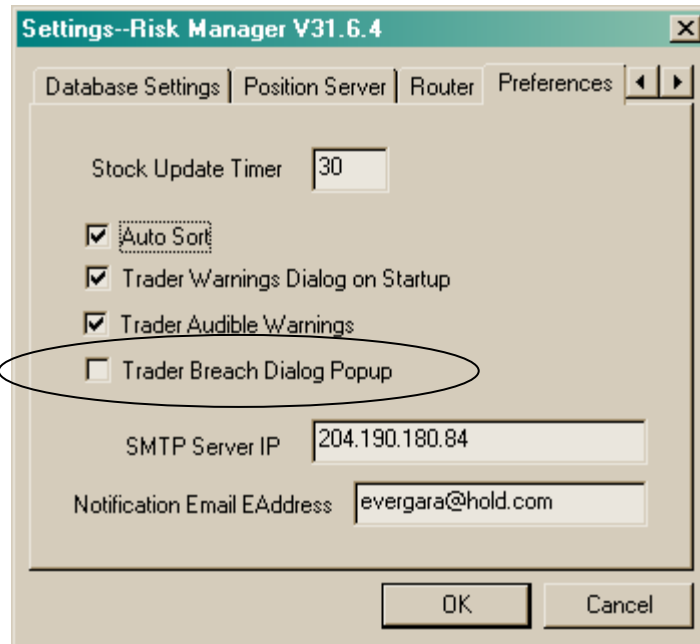
REVISIONS AND PREVIOUSLY RELEASED DOCUMENTATION

The revisions section of the release notes contains changes since v31.6 and are included as part of this release in order to continue documenting the Risk Manager in a user-friendly manner.

- **TRADER PROFILE DIALOG:** Trader details is available to improve visibility by including all trader related data in one shot including pie charts with color coordinated breaches and button links to positions view and edit power and limits dialogs.



- There are buttons located on both sides of the *OK* button to move to the previous or next trader in the list without having to open another trader profile dialog.
- **Trader Breach Dialog Popup Option** – A checkbox option, defaulted to *OFF*, to automatically display the trader profile dialog upon trader breach can be accessed in the main menu under *Setup then Preferences*. If this option is checked, the dialog will popup should the active risk manager detect a trader breaching ratios. The option has no effect on the ability to open the trader dialog manually.



- **TRADER MAINTENANCE:** Trader Maintenance mode restricts a trader to place trades that *close current open positions only*. **Feature currently disabled** until Floating Orders are properly handled in a future release of the Position Server.

Traders breaching long or short to buying power ratios or Market Value and Gross Profit Loss limits will be restricted closing order trading only. Active Risk Managers notify the position server to set trader to maintenance mode. The Trader dialog pops-up when a trader is restricted and *trader item color set to gray* as well as the *TraderID appended with an asterisk* in any trader view in order to facilitate finding the restricted *traders by ascended sorting the trader id column*.

Trader Maintenance Triggering Limits

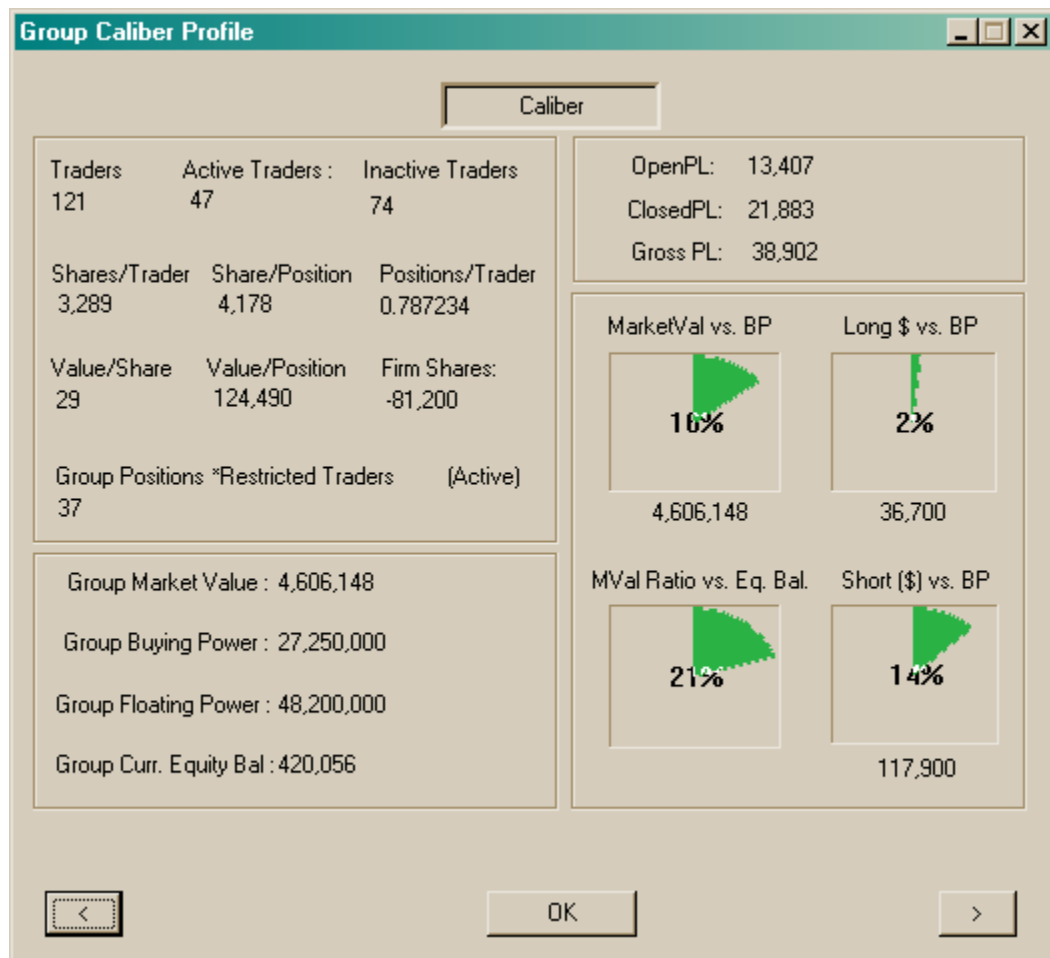
- \leq \$(50k) Gross Profit Losses
- \geq \$2M Market Value
- Short and Long Ratios are user definable (see POWER LIMITS dialog section below)

Account Name	Trader	BRSQ	# of Trades	Capacity	Cum. Shares	Closed P/L
Brodsky, Konst...	*KBRUDSKZ	MHBK	29	Proprietary	7,000	-30
Lialine, Vladimir	*VLIALINE	RHLI	108	Proprietary	21,200	706
Schur, William	*WSCHUR	ZHSW	26	Proprietary	22,674	14
Abdullayev, Ata...	AABDULLA	ROAF	31	Customer	8,000	130
Abdurapov, A...	AABDURAU	ROAD	4	Customer	400	19

- **TRADER PRODUCTION MODE:** Trader resumes production mode when long and short ratios to buying power ratios are back to normal. **Feature currently disabled** until Floating Orders are properly handled in a future release of the Position Server.

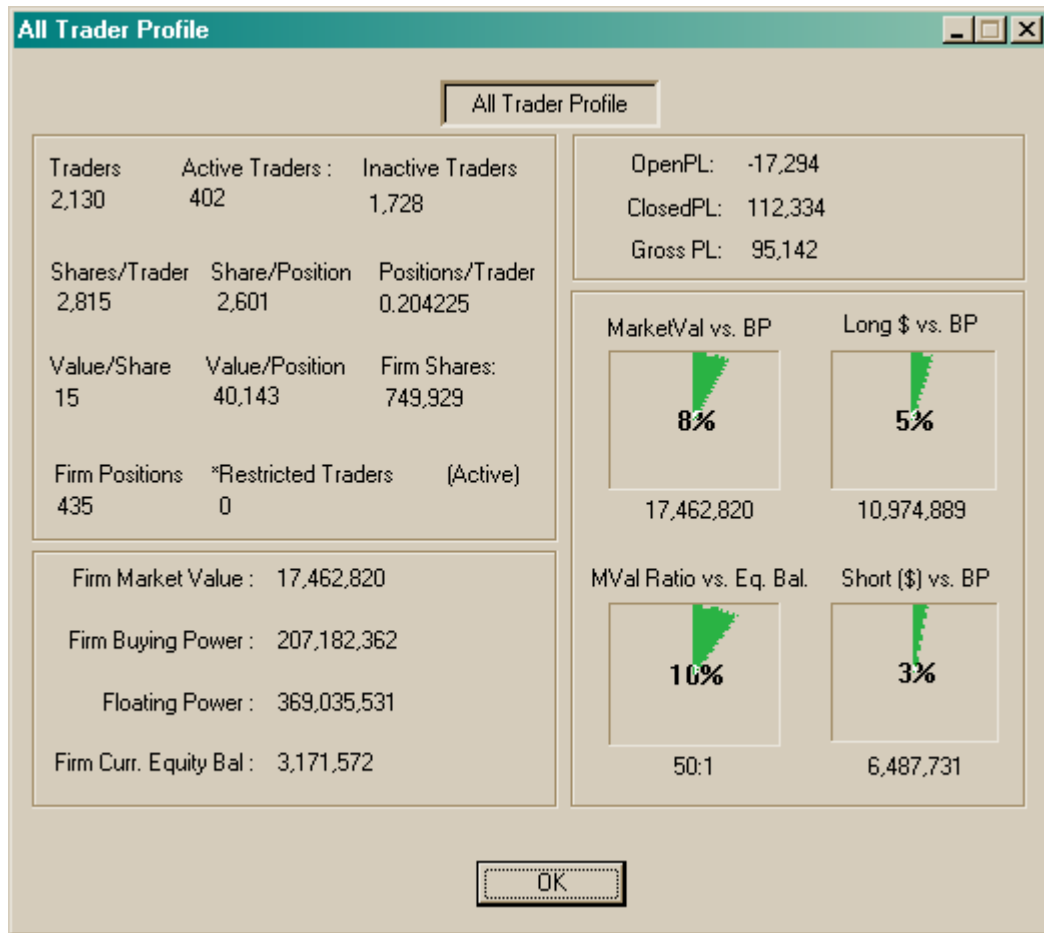
An active risk manager will send a message to the position server to resume full production mode for a particular trader should the trader be in trader maintenance mode by first reading the database for trader the maintenance mode field then satisfying calculated current ratios do not breach ratio limits. The position server is responsible for managing the returning of a particular trader to full production mode.

- **TRADER GROUP PROFILE DIALOG:** Trader Group details are available to improve visibility by including all trader group related data in one shot including pie charts with color coordinated breaches* and button links to positions view and edit power and limits dialogs.



- **FIRM PROFILE DIALOG:** Firm Profile details are available via a dialog detailing all firm related data in one shot including pie charts with color coordinated breaches.

* Green indicates well within acceptable levels, Yellow indicates approximating



- **FIRM MAINTENANCE:** Firm Maintenance mode restricts all traders to placing trades that *close current open positions only*. **Feature currently disabled** until Floating Orders are properly handled in a future release of the Position Server.

Firm is in breach when long or short to buying power ratios exceed limits as well as when Market value exceeds limits. All traders in the firm will be restricted to closing order trading only. Active Risk Managers notify the position server to set firm to maintenance mode. It is up to the Position Server to trigger the routers into Risk Maintenance. The Firm Profile dialog pops-up when the firm is restricted and an email is sent to Risk Alerts notifying of the breach.

Firm Maintenance Triggering Limits

- MAX_FIRM_MARKET_VAL = \$30M
- MAX_FIRM_GROSS_LOSS = (\$200k)

- **FIRM NUCLEAR MAINTENANCE:** Firm Nuclear Maintenance mode restricts all traders from placing any trades and cancels all floating orders. The Firm Profile pops-up detailing the breach with GUI's and the actual quantities. An email is sent to Risk Alerts with

the "NUCLEAR FIRM RESTRICTIONS IN EFFECT" details. **Feature currently disabled** until Floating Orders are properly handled in a future release of the Position Server.

- NUCLEAR_FIRM_MARKET_VAL = \$50M
- NUCLEAR_FIRM_GROSS_LOSS = (\$1M)

- **FIRM PRODUCTION MODE:** Firm resumes production mode from Firm Maintenance and Firm Nuclear Maintenance when market value and/or gross limits are back below the maintenance triggering limits and manually by one or more designated users, respectively.

An active risk manager will send a message to the position server to resume full production mode for the firm should the firm be in firm maintenance mode and satisfy the calculated current ratios and market values do not breach limits. The position server is responsible for managing the returning the firm to full production mode based on messages received from actively monitored risk managers.

- **POSITION VERIFICATION DIALOG:** Position dialog verification was requested in order to verify that the current positions are accurate by reading position information directly from the database and displaying in a list.
 - Hitting F1 inside the position dialog for a particular trader displays the position verification dialog.



Stock	Qty	AvgPrice	Market Val
GG	5,000	27.980	-139,900
NVAX	5,000	5.710	-28,550
SHW	10,000	43.764	-437,644

- **POWER LIMITS DIALOG:** Additional fields are available to manage trader power.
 - Additional limits will be gathered in order to further monitor a trader's risk and set the ability to automatically restrict trader's exposure to risk. This allows custom values be set as opposed to having settings across the board for all Proprietary traders and other settings for customer traders. Also prevents having to eyeball some of these ratios.
 - Max Shares Traded:
 - Limit the number of shares trader throughout the day.
 - Max Shares Held:
 - Limit the number of shares held at any one time.
 - Max Positions Traded:
 - Limit the number of positions traded throughout the day.
 - Max Positions Held:
 - Limit the number of positions held at any one time.

- Market Value to Current Equity Balance Ratio:
 - Allow for individual trader ratio settings for BP/Mval Ratios.
 - Default is 50:1 for Proprietary Traders.
 - Default is 4:1 for Customer Traders.
- Market Value to Current Equity Balance Ratio:
 - Allow for individual trader ratio settings for Market Value/Curr.Eq.Balance Ratios.
- Long Market Value to Buying Power Ratio:
 - Allow for individual trader long ratio settings for MVal/BP Ratios.
 - Limits being on the same side of the market.
 - Default acceptable Ratio is 80% of Current Buying Power.
- Short Market Value to Buying Power Ratio:
 - Allow for individual trader short ratio settings for MVal/BP Ratios.
 - Limits being on the same side of the market.
 - Default acceptable Ratio is 75% of Current Buying Power.

The screenshot shows a dialog box titled "Power Limit-- ROAJ (JABDURAS)". It contains the following fields and values:

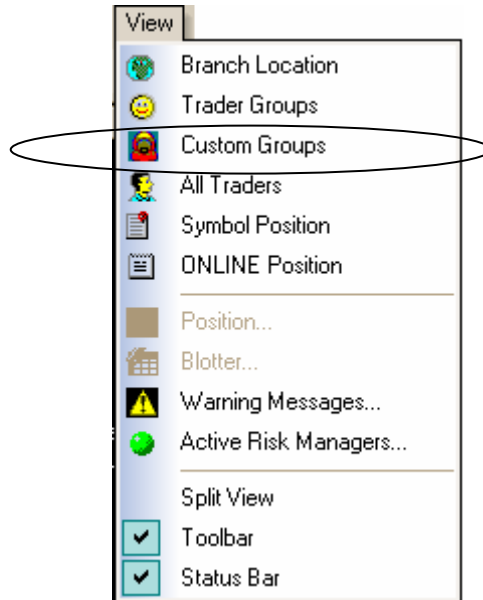
Buying Power :	50000
Floating Power :	100000
Stop Loss :	270
Max Order Size :	1000
Max Shares Traded :	0
Max Shares Held :	0
Max Positions Held :	0
Max Positions Traded :	0
MVal BP Ratio :	
MVal Equity Ratio :	
Long BP Ratio :	
Short BP Ratio :	

Buttons: OK, Cancel

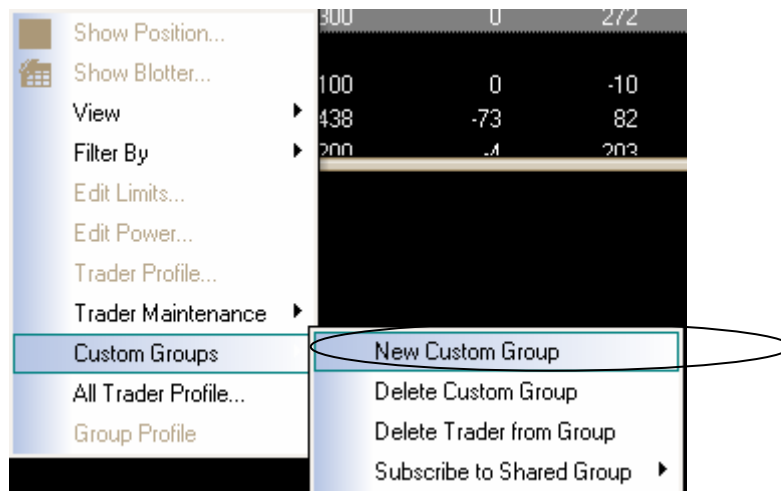
- **CUSTOM GROUPS:** The Custom Group View allows a Risk Manager user to create and manage customizable trader groups based on any grouping logic for traders to which the

user is entitled to view. Custom Groups are stored in the database and are linked to the user ID creating the custom group.

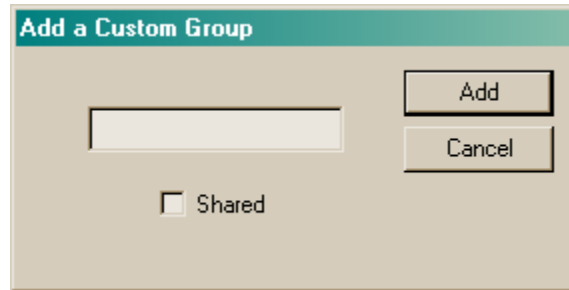
- **VIEWING THE CUSTOM GROUPS:** Select View Menu then Sub-Menu Custom Groups.



- **CREATING A CUSTOM GROUP:** Custom Groups must either be Created, Imported or Subscribed to for Viewing (Shared Groups). Right click in the top pane view and select Custom Groups



- o Selecting New Custom Group will display the Add a Custom Group dialog.



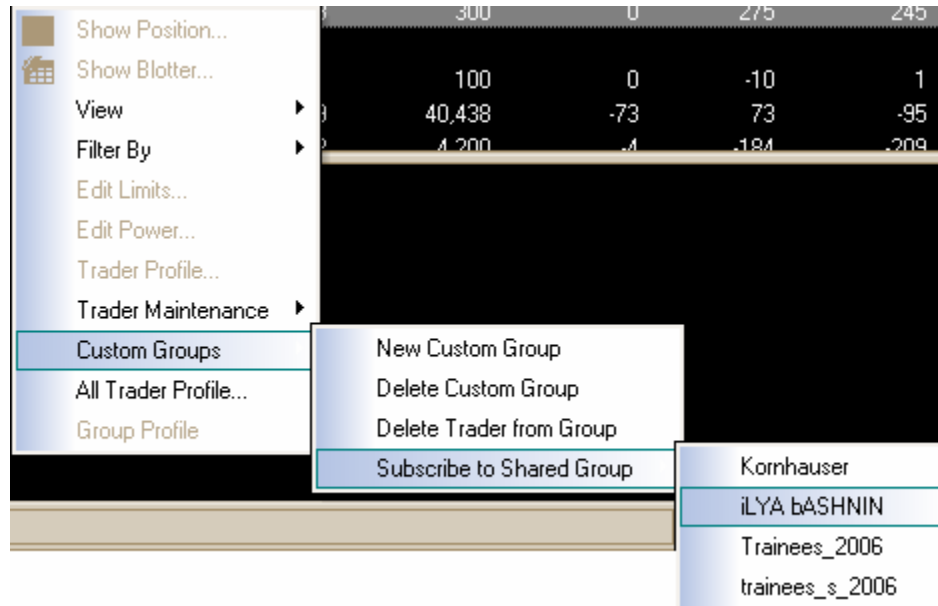
- o There also exists the option of creating this group as a shared group for others to view. Those wanting to subscribe to the shared groups will only have the ability to view traders for which they are entitled. Subscribers to shared groups are not authorized to make changes. Enter a name unique to the currently logged-in Risk Manager ID. Check the option Shared option box to create this group as shared. To create this group as private, Do Not check the shared option box.

- o **POPULATING CUSTOM GROUPS WITH TRADERS:** Go to any view displaying traders, highlight the trader or traders, right click to display the popup menu. Select Menu Custom Groups, sub-menu Add Trader to Group, and then click on the Custom Group for which you would like to add the highlighted trader(s).



- o **SUBSCRIBING TO EXISTING SHARED GROUPS:** Subscribing to existing shared groups must be performed from within the Custom Groups view pane. Right click

then select Custom Groups, Subscribe to Shared Group, then finally select a group for which to subscribe. Shared groups are only editable by the share group originator.



- **DELETING GROUPS AND REMOVING SHARED GROUPS:** Deleting shared groups and owner created groups are accomplished similarly through the popup menu highlighting the Custom Group for which is the intended removal target. A verification dialog will prompt user to verify that this is the intended action.
- **DELETING TRADERS FROM A SHARED GROUP:** Deleting traders from Custom Groups is achieved by selecting the trader(s) from the Custom Groups Trader view then right clicking and selecting the Delete Trader from Group option. No other dialogs will be displayed.

BUG FIXES

- Added a `IsActive` public method to the `DataHandler` to allow other classes to determine whether the Risk Manager is actively monitoring Risk for certain tasks such as placing restrictions on traders.
- Added a `IsTraderRestricted` public method to the `DataHandler` which interrogates the database to allow the `DataCollection Thread` determine whether the Trader is currently restricted prior sending messages to the Position Server to remove restrictions.
- Tightened-up the `DataHandlerThread` with locks around all paths to the `TraderVector`.
- Added a `CSyncObject` in the Stock Updates to lock the `DataHandler` while manipulating the Trader and Stock Vectors prior to updating the views with the latest stock quotes.
- Removing the lock after the stock updates completes while updating the views.
- Moved the `CommaFormat` method to the `SafeString` class.
- Made `Activity.log` filename unique due to possibly running multiple risk managers on the same machine by appending the minute and second the Risk Manager was started into the `Activity.log` file name. The Activity log file maintains a log of the warnings issued to the Risk Managers Warning Dialog via the Position Server.