

## FundManager: Managed funds. Setup, settings, features.

Successful trading at financial markets is an attribute of professional traders. These traders are always happy to accept investor's funds in trust management. Managing accounts of a large number of investors can only be through the logic of the fund.


Share fund is a great way to attract professional managers. With FundManager plugin the brokerage company could open the service for fund managers with a lot of investors. The main advantage of our solutions is server-side solution via plugin with usage of PAMM logic. It means:

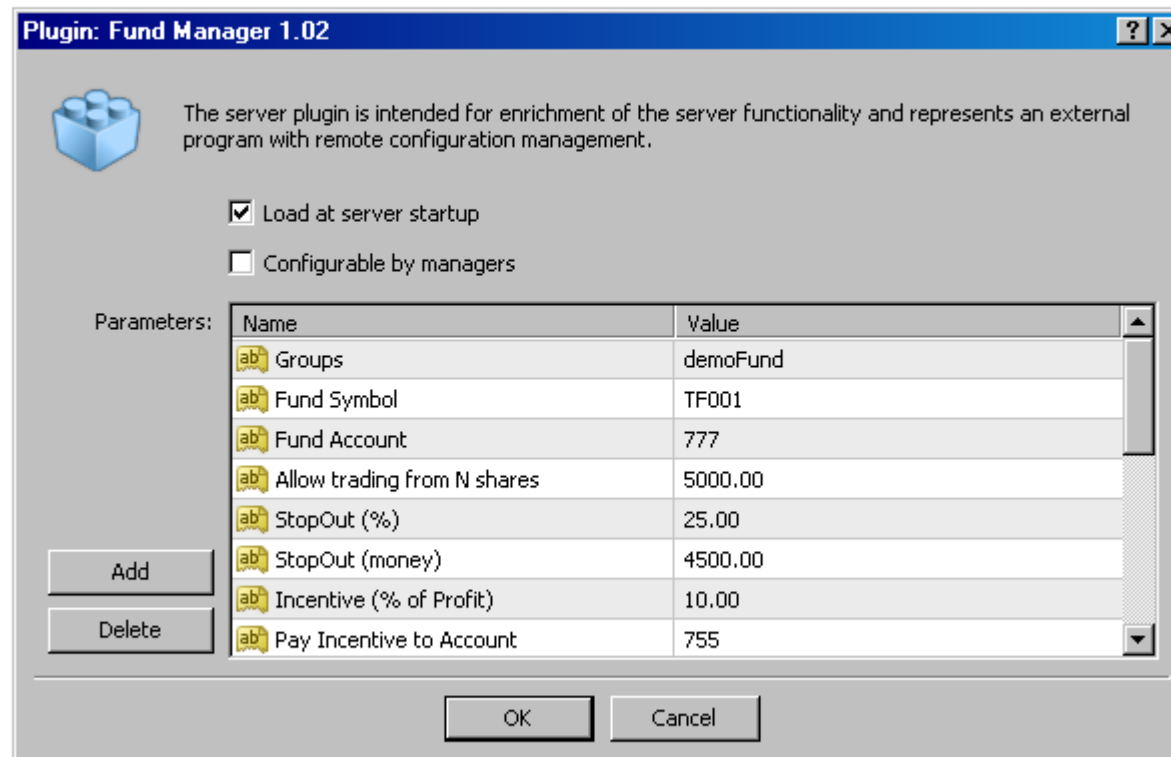
- An unlimited number of investors.
- Multicurrency Fund: Investors can be from the groups with different deposit currency.
- Fund manager uses client terminal for fund account management.
- No restrictions on the frequency of trading in the fund account.
- Expert Advisers are allowed.
- Allowed the purchase of fund shares at any time.
- Allowed agent commissions for attracting investors.
- Investors can buy shares from own existing trade account.
- Investors did not see any transaction commits by fund manager on fund account.
- Fund unit price is displayed as a chart in client terminal.
- Allowed standard commissions.
- Automatic incentive payments.
- Minimal fund capitalization for fund trading opening can be defined.
- Minimal investment period can be defined.
- Allowed daily swaps, which can be used like a service fee for fund positions rollover;
- Cycles of fund can be defined in order to setup periodic interval funds.
- Allowed automatic reinvestment with automatic incentive payments.
- Own fund stopout based on fund equity.
- «White list» of investors – all fund shares operations can be processed only after approval of fund human-manager.
- Dedicated chart for Fund volumes.
- Pending requests system – all investors requests are collected during trading day and processed at predefined time.

## FundManager Setup

Download fundmanager.zip from section 'Downloads - Plugins' of LoreConsult Service Desk, unzip file and copy file fundmanager.dll into subfolder 'plugins' of your trade server. Restart trade server and adjust settings using MT4 Administrator.

**Attention!** If you haven't LoreConsult Service Desk access, send request to [info@loreconsult.com](mailto:info@loreconsult.com).

Name	Version	Copyright	File
 Fund Manager	1.02	LoreConsult Ltd., <a href="http://www.loreconsult.com">http://www.loreconsult.com</a>	FundManager.dll



FundManager Settings Window

Parameter	Description
Analyze Period (sec)	Analyze Period for fund rate calculation. Minimum value: 1 sec. The higher value (15-30 seconds), reduces the server loading. If the trading session on the fund symbol is defined for weekend only, it is recommended to set the period equal to 30 seconds.
Groups	Groups list, which analyzed by plugin to collect information about amount of shares invested into fund.  You can define list using templates. For example: <b>fund*</b> - all groups beginning with word <b>fund</b> ; <b>!demo*,*</b> - all groups, except demo-groups.
Fund Symbol	Fund symbol.
Fund Account	Fund account.
Allow trading from N shares	The minimum amount of fund shares, which required to allow the trading on the fund account.
StopOut (%)	Own StopOut (in percentage) level based on fund equity. The StopOut level is calculated as the maximum drawdown of fund in relation to the maximum value, which is selected from weekly close price of fund unit (since launch the fund, or the previous stopout, and without regard for the current week).
StopOut (money)	Own StopOut (in fund currency money).
Incentive (% of Profit)	Incentive level in percentage (0-100%), which is paid after redemption of profitable investment.
Pay Incentive to Account	Account of incentive recipient. Can be any trading account in any group with any currency deposits.
Show Account in Comment	The parameter managed details level of fund account credit operation comment. If you need to show investor account in comments, set 1. Otherwise, if you need to hide investor's account number, set 0.
Block Redemption (days)	The minimum investment period, during which the redemption is prohibited.
Block Manager Redemption	Ban the redemption of shares bought by manager in the presence of other investors. Tracked the redemptions of the account specified in the option «Pay Incentive to Account». Values: 0 - permit the redemption in the presence of other investors, 1 - deny the redemption in the presence of other investors.
Max Initial Margin (%)	Check margin requirements at the opening of new orders and activation of pending orders. The formula for calculating the maximum available margin: <b>Equity * Max Initial Margin (%) / 100</b> . If new margin requirements will exceed the calculated value, the server prohibits the opening of the new position; cancels activated pending order. Values: 0 - do not check margin requirement; any positive value - the margin requirements level (as percentage of the equity fund).
Investor Password Protection	«White list» function: Check comment of all fund shares orders for presence of investor password of fund account. When the verification is enabled, server prohibits all trading operation by fund shares, if the field «Comment» of an order would not have the current investor password of fund account.

	Values: 0 - do not check the investor password, 1 - verify the investor password.
Fund Volume Symbol	Fund Volume Symbol. The parameter can be empty if you do not want to display the volume of the fund.
Fund Start Time (YYYY.MM.DD)	Start Day of periodic cycles of fund. Example: <b>2008.11.30</b>
Fund Life Time (days)	Period (in days) of fund cycle. Zero value means that fund haven't cycles. Example: Cycle of fund equal to 7 days means that every seven days all the positions of investors will be closed by the server. New cycle starting is checked every 15 min.
Reinvest	Parameter managed the forced reinvestment at the end of the fund cycle. Values: 0 - do not reinvest shares of investor, 1 - reinvest shares of investor (remaining after the payment of incentive) at the current fund rate. <b>Attention!</b> When you enable this parameter (value is 1) you should adjust the step of lot size equal to 0.01 for most accurate reinvestment.
Reinvest Profitable Only	Parameter managed the reinvesting only profitable shares. Values: 0 - reinvest all of fund shares (profitable and unprofitable); 1 - reinvest only profitable shares and remain opened all unprofitable shares. Option allows you to remain opened (without reinvestment) all unprofitable orders of investors at the end of the fund cycle.
StopOut Vote Timeout (hrs)	The waiting period for reply mail from investor, after stopout of the fund account. During the waiting period manager can't trade on fund account. Upon receipt of the refusal of further participation in the fund as an investor (by internal mail), the server automatically closes all the fund shares of the investor.
Fund Pendings Symbol	Fund pendings symbol. The parameter can be empty if you do not need to process pending requests.
Pendings Process Time (HH:MM)	Pending requests processing time. Specified in the setting time should be located in the trading session of fund pendings symbol. Example: <b>00:10</b>
Count Pengings before N min	Amount of time (in minutes) before the Pendings Process Time, determining the cut-off time for the pending requests. All subsequent pending requests (received after the cut-off time) will be processed at the next trading day. The parameter can take any value from 1 to 1439 minutes. Example: <b>370</b> Value «370» means that investors can send the pending requests before 6 hours 10 minutes prior to the Pending Process Time.

## Fund Symbol Settings

Open Fund Symbol settings window. And adjust fund symbol settings. On '**Symbol**' tab adjust 'Digits' with 4. Define 'Currency' and 'Margin currency' with USD value. Enable 'Long only' checkbox, to allow only long positions for fund shares. Spread is 'off'.

For more accurate calculations of fund symbol quotes, you can set 'Digits' equal to 5. You can also define the spread equal to 1 and rounding error of fund unit calculation will not be in favor of investors.

Disable all filtrations of fund symbol on '**Filtration**' tab.

Adjust '**Calculation**' tab with following values:

- 'Contract size' = 1.
- 'Margin calculation' is CFD.
- 'Profit calculation' is CFD.

Adjust swaps on '**Swaps**' tab and define 'Long position' swap with some negative value, if you want to collect service fee for rollover. Otherwise set 0 as value of 'Long positions' parameter.

Define sessions on '**Sessions**' tab. If you need to allow trading for fund symbol within certain timeframe, setup appropriate trade sessions.

## Settings of fund account

Create fund account with number defined in plugin setting 'Fund Account'. Account should be created in one of trader groups. Based on settings on screenshots in this article we need to create account 777. Five parameters of the fund will be stored in Comment field of fund account:

- virtual difference;
- time of last stopout;
- level of last stopout;
- trading parameter (0 — trading is allowed, 1 — trading disabled);
- start price level.

Example: **0.00000|so:1228426473|sl:7500|st:0|sp:1.00000 - DON'T EDIT!**

**Attention!** Please do not edit comment of fund account in order to correct calculation.

Account: 777, Fund TF001 Manager, USD

Personal | Trades | Security

Enable

Name: Fund TF001 Manager

City: State: Country: United States

Address: Zip-code:

Phone: Email:

ID number: Status: RE Color: None

Group: demoFund

Comment: 0.00|so:0|sl:0|st:0|sp:1.00000 - DON'T EDIT!

Leverage: 1 : 100 (forex only) Tax rate: % Agent account:

Allow to change password  Read only (without trading)  Send reports

Update

Отмена Справка

## Group settings

Switch to trade group settings, from which investors will buy shares. Check that «Use partial close with full close initial position» parameter on «Permissions» tab is disabled. Open window of settings of securities group, containing fund symbol. Define Minimum Lot to 100.0, Lots Step equal to 0.01, Maximum Lots with 100000.

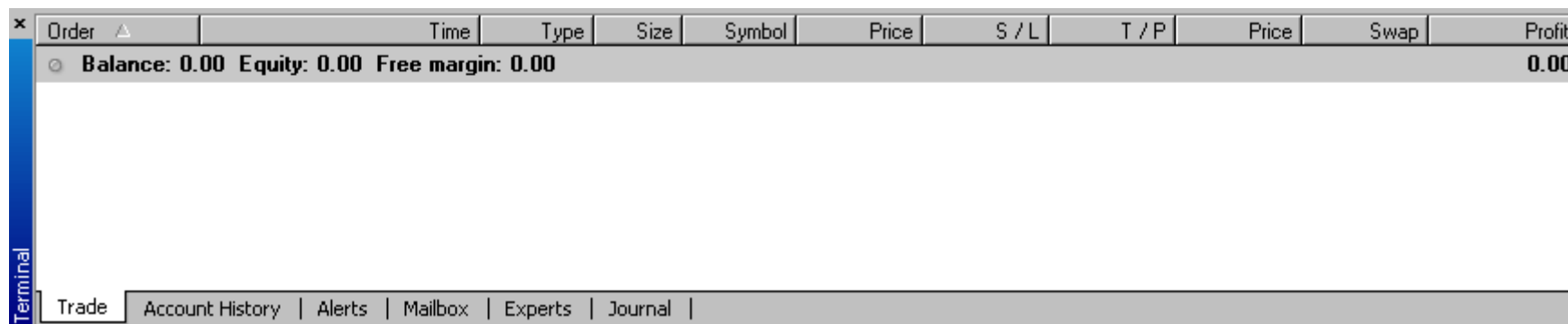
Define agent commission in 'Agent points' parameter to pay for attracting investors. If you want, you may define standard commission too with the same value like agent commission. For example, if Standard commission will be 1 point per lot and Agent commission will be 1 point per lot too, then, practically, it will mean that agents will receive the same amount of money which paid by investor during share fund purchase.

After all settings adjustment, restart trade server please.

## Starting of fund work

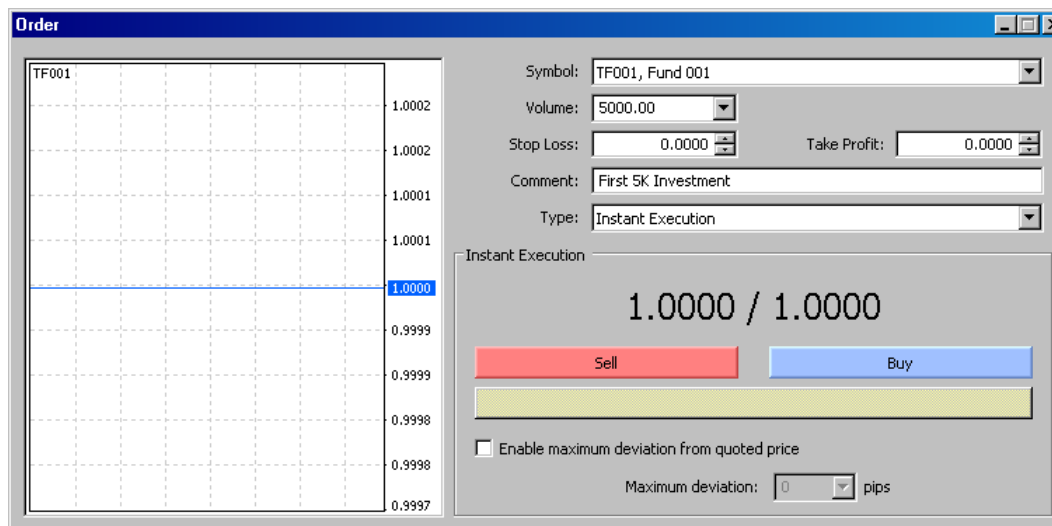
For testing create trade account with balance 50000 USD in investors group.

Connect to trade server using two client terminals. Using first terminal connect with trader-investor account. Using second terminal connect to fund account ('777' in our example). Fund unit (quotes of TF001 symbol) will be 1.0000/1.0000. Balance and Equity of fund will be zero:



## Fund Unit Purchase

Using trader-investor account purchase 5000 fund units, which equal to 5000 USD (based on settings of symbol in this article).



As result, trader-investor account will have open order by TF001 symbol:

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commi...	Swap	Profit	Comment
318818	2008.10.15 16:05	buy	5K	tf001	1.0000	0.0000	0.0000	1.0000	0.00	0.00	0.00	First 5K Investment
<b>Balance: 50 000.00 Equity: 50 000.00 Margin: 5 000.00 Free margin: 45 000.00 Margin level: 1000.00%</b>											<b>0.00</b>	

Terminal

Trade | Account History | Alerts | Mailbox | Experts | Journal |

Fund units purchase will be reflected on fund account as credit operation:

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Swap	Profit
<b>Balance: 0.00 Credit: 5 000.00 Equity: 5 000.00 Free margin: 5 000.00</b>										<b>0.00</b>

Terminal

Trade | Account History | Alerts | Mailbox | Experts | Journal |

Using this way, fund manager will have information about real amount of investments at anytime. All trade operation of fund manager will shown as profit or loss in form of balance operations. As result, fund manager will have information about managed fund profitability at anytime.

## Trading on Fund Account

Fund Manager can trade on the fund account like a simple trader with any frequency of the trade operations and can use Expert Advisor, if such usage of Expert Advisors is allowed in the group settings.

Let's take a look how the trade activities will be reflected at the fund account and at the trader-investor account.

Let the fund manager opened the position BUY 2.00 EURUSD at price 1.3563. As result the fund account will have the loss equal to EURUSD spread. In our example, loss is -40 USD. Equity of the fund account will be 4960 USD and the fund unit price will be  $4960/5000 = 0.9920$ .

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Swap	Profit
318820	2008.10.15 16:07	buy	2.00	eurusd	1.3563	0.0000	0.0000	1.3561	0.00	-40.00
<b>Balance: 0.00 Credit: 5 000.00 Equity: 4 960.00 Margin: 2 712.60 Free margin: 2 247.40 Margin level: 182.85%</b>										<b>-40.00</b>

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Investor on own account will see this update in real time:

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commi...	Swap	Profit	Comment
318818	2008.10.15 16:05	buy	5K	tf001	1.0000	0.0000	0.0000	0.9920	0.00	0.00	-40.00	First 5K Investment
<b>Balance: 50 000.00 Equity: 49 960.00 Margin: 5 000.00 Free margin: 44 960.00 Margin level: 999.20%</b>											<b>-40.00</b>	

Terminal

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## How to reflected the changing of equity of fund account

If the rate of EURUSD is changed to 1.3591/1.3593, the profit of the fund account will be 560 USD:

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Swap	Profit
318820	2008.10.15 16:07	buy	2.00	eurusd	1.3563	0.0000	0.0000	1.3591	0.00	560.00
<b>Balance: 0.00 Credit: 5 000.00 Equity: 5 560.00 Margin: 2 712.60 Free margin: 2 847.40 Margin level: 204.97%</b>										<b>560.00</b>

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Equity of the fund account will be 5560 USD, and the fund unit price will be  $5560/5000 = 1.1120$ . And the update will appear in the trader-investor terminal:

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commi...	Swap	Profit	Comment
318818	2008.10.15 16:05	buy	5K	tf001	1.0000	0.0000	0.0000	1.1120	0.00	0.00	560.00	First 5K Investment
<b>Balance: 50 000.00 Equity: 50 560.00 Margin: 5 000.00 Free margin: 45 560.00 Margin level: 1011.20%</b>											<b>560.00</b>	

Terminal

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## Fund Unit Purchase after Fund Opening

If an investor buys fund shares after the fund opening, the purchase is made based on current fund unit price.

Assume a trader-investor has bought another 10 000 fund units with the value of the unit 1.1120 USD. Then, on his account this purchase will affect the following:

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commi...	Swap	Profit	Comment
318818	2008.10.15 16:05	buy	5K	#001	1.0000	0.0000	0.0000	1.1120	0.00	0.00	560.00	First 5K Investment
318821	2008.10.15 18:15	buy	10K	#001	1.1120	0.0000	0.0000	1.1120	0.00	0.00	0.00	
<b>Balance: 50 000.00 Equity: 50 560.00 Margin: 16 120.00 Free margin: 34 440.00 Margin level: 313.65%</b>											<b>560.00</b>	

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Fund-manager just sees such operation because of an increase in the credit of fund account by the amount  $10000 * 1.1120 = 11120$  USD. Now the credit is equal to 16120 USD, equity of fund is 16680 USD:

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Swap	Profit
318820	2008.10.15 16:07	buy	2.00	eurusd	1.3563	0.0000	0.0000	1.3591	0.00	560.00
<b>Balance: 0.00 Credit: 16 120.00 Equity: 16 680.00 Margin: 2 712.60 Free margin: 13 967.40 Margin level: 614.91%</b>										<b>560.00</b>

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## Profit Distribution

Assume the rate of EURUSD have value 1.3620/1.3623. In this case:

- Profit of the fund account will be 1140 USD.
- Equity of the fund 17260 USD.
- Total Investment is 15000 fund units.
- The fund unit price is  $17260/15000 = 1.1507$  USD. Price is rounded from 1.1506666(6) based on 'Digits' parameter of the fund symbol.

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Swap	Profit
318820	2008.10.15 16:07	buy	2.00	eurusd	1.3563	0.0000	0.0000	1.3620	0.00	1 140.00
<b>Balance: 0.00 Credit: 16 120.00 Equity: 17 260.00 Margin: 2 712.60 Free margin: 14 547.40 Margin level: 636.29%</b>										<b>1 140.00</b>

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At the trader-investor account you can see all the changes too:

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commi...	Swap	Profit	Comment
318818	2008.10.15 16:05	buy	5K	tf001	1.0000	0.0000	0.0000	1.1507	0.00	0.00	753.50	First 5K Investment
318821	2008.10.15 18:15	buy	10K	tf001	1.1120	0.0000	0.0000	1.1507	0.00	0.00	387.00	
<b>Balance: 50 000.00 Equity: 51 140.50 Margin: 16 120.00 Free margin: 35 020.50 Margin level: 317.25%</b>												<b>1 140.50</b>

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**Attention!** On the picture above we can see that profit of the investor account at 50 cents higher than the profit of the fund account. This is the result of rounding the fund unit price. To reduce such errors in the fund symbol settings you can define 'Digits' equal to 5 and in additional 'Spread' equal to 1 points.

## Fund Units Redemption

Suppose the trader decided to sell the fund units (close order #318821) to take the profit. Closing order BUY 10K TF001 with the profit of 48 USD trader will receive the appropriate return on own account:

Order	Time	Type	Size	Sym...	Price	S / L	T / P	Time	Price	Com...	Taxes	Swap	Profit	Comment
318794	2008.10.15 10:40	balan...										Deposit	50 000.00	Deposit
318821	2008.10.15 18:15	buy	10K	tf001	1.1120	0.0000	0.0000	2008.10.15 18:37	1.1507	0.00	0.00	0.00	387.00	
<b>Profit/Loss: 387.00 Credit: 0.00 Deposit: 50 000.00 Withdrawal: 0.00</b>													<b>50 387.00</b>	

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The balance of the trader account now increased the amount of profits:

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Commi...	Swap	Profit	Comment	
318818	2008.10.15 16:05	buy	5K	tf001	1.0000	0.0000	0.0000	1.1506	0.00	0.00	753.00	First 5K Investment	
<b>Balance: 50 387.00 Equity: 51 140.00 Margin: 5 000.00 Free margin: 46 140.00 Margin level: 1022.80%</b>												<b>753.00</b>	

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Immediately the fund manager will see a reduction of credit on amount equal to the initial investment. And the profitable withdrawal will be reflected as a negative balance operation on the fund account:

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Swap	Profit
318820	2008.10.15 16:07	buy	2.00	eurusd	1.3563	0.0000	0.0000	1.3620	0.00	1 140.00
<b>Balance: -387.00 Credit: 5 000.00 Equity: 5 753.00 Margin: 2 712.60 Free margin: 3 040.40 Margin level: 212.08%</b>										<b>1 140.00</b>

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In case of negative balance, the fund manager should close part of profitable positions to restore positive value of the funds account balance. Thus, only the fund manager decides which part of the position should be closed. Suppose he had decided to close 0.7 lots of order #318827. In result the balance of fund account will be 12 USD. Equity of fund account remains the same and, consequently, the fund unit price will be unchanged:

Order	Time	Type	Size	Symbol	Price	S / L	T / P	Price	Swap	Profit
318827	2008.10.15 16:07	buy	1.30	eurusd	1.3563	0.0000	0.0000	1.3620	0.00	741.00
<b>Balance: 12.00 Credit: 5 000.00 Equity: 5 753.00 Margin: 1 763.19 Free margin: 3 989.81 Margin level: 326.28%</b>										<b>741.00</b>

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Trade | Account History | Alerts | Mailbox | Experts | Journal

## Example of Reinvesting in Cycles Interval Fund

If "Reinvest" parameter is 1, all investments will be reinvested at the fund cycle end. At the reinvesting manager account will receive the incentive from profitable investment automatically. Let's take a look the example of the calculation of the reinvesting volume, taking into account the incentive fees and changing of fund unit rate.

Suppose an investor has invested 1000 USD at 1.0000 and has acquired 1000 fund shares. If the level of incentive of the manager is equal to 20% and the close price of fund unit at the end of interval is equal to 2.0000, than after the compensation the investor will have 1800 USD:

$$1800=1000*2.0000-1000*(2.0000-1.0000)*0.2$$

This amount 1800USD will be reinvested at fund rate 2.0000. Thus at reinvesting will be purchased 900 fund shares (1800/2.0000).

## Server Journal Messages

Any changes of fund state are stored in the server journal. Activity of the plugin can be traced using the filtration word **FundManager** in the server journal. Below is a list of FundManager plugin messages:

### 1. Plugin Initialization:

```
FundManager'777': initialized 1.07 (fund symbol: TF001, total volume: 5000.00, internal virt_diff: 0.00000, allow fund trading from 5000.00 shares, so: 30.00% or 1500.00 in money)
```

```
FundManager'777': initialized (incentive: 10.00% of profit, pay incentive to account '755', block redemption within 7 days, show account in comment is 1)
```

```
FundManager'777': initialized (block manager redemption: 1, max initial margin: 20.00%, investor password protection: 1, fund volume symbol: TF001#V)
```

```
FundManager'777': initialized (stop trading: 0, start time: 2008.11.18, life time: 10 days, so level: 0.75000, so time: 1228426473 sec, so vote timeout: 10 hrs, so state: 1, vote till 2008.12.05 07:34)
```

```
FundManager'777': initialized (start price: 1.22770, fund pendings symbol: TF001#P, pendings process time: 00:10, count pendings before 370 min)
```

```
FundManager'777': initialized (reinvest: 1, profitable only: 1, analyze period: 1 sec, groups 'demoFund')
```

Record *so state* in the 4th line shows the status of the vote after the fund stopout. In the absence of the vote state the parameter is 0. In the current voting the parameter is 1, it also specifies the time and date of expiry of the vote, after which trading on the fund will be allowed.

If the Fund Account is 0 (fund is disabled), or in case of error of fund account initialization in the server journal displays a notice:

```
FundManager'0': initialization 1.07 failed (fund symbol: TF001)
```

2. Changing fund volumes at the fund shares purchase or redemption:

```
FundManager'777': volume difference 500.00 (total new volume 5000.00, virt_diff: 0.00000f)
```

3. Incentive payment. At the redemption of profitable fund shares the manager receives incentive. If shares are redeemed with profit, the manager receives incentive. The incentive payment amount is debited from the investor account and then charged to the account manager. In case of error of investor's account debiting the manager does not receive incentive and the server journal displays appropriate message:

```
FundManager'777': failed to withdraw incentive 0.72 from account '24679' by order #319169 [-10% fee]
```

If investor account is debited successfully, the incentive payment is deposited on the manager account (Incentive Account). The server journal displays the order of balance operation, the amount of incentive and current Incentive Account. In the first brackets you can find the ticket of profitable order, investor account and the order's profit (before incentive payment). In the second brackets you can find the current level of incentive percentage and the rate of conversion from the currency of deposit of investor account to the currency of deposit of incentive account:

```
FundManager'777': order #319177, added incentive 0.72 for account '755' [order #319169, account '24679', total profit 7.20][incentive level 10.00%, conv.rate 1.000000]
```

When an error occurs in the server journal you can find a message:

```
FundManager'777': error adding incentive 0.72 for account '755' [order #319169, account '24679', total profit 7.20][incentive level 10.00%, conv.rate 1.000000]
```

4. Own Fund StopOut. Forced liquidation of open positions (stopout) is executed in case if the fund rate is smaller the calculated value of percentage level, as well as the fund capitalization is below value of «StopOut (money)» parameter. The first brackets indicates the current equity, margin, freemargin and percentage level of current margin. The second brackets indicate the stopout percentage level, the calculated value and the stopout in money:

```
FundManager'777': close all orders due stop out [equity: 1430.00, margin: 4429.25, freemargin: -2999.25, ml 32.29%][so level 30.00% (0.75000), so (in money) 1500.00]
```

At stopout all positions for symbols with active trading session will be closed. In case of error of symbol information retrieving, appropriate message will be displayed:

```
FundManager'777': receiving information for NZDUSD symbol failed
```

In case of error of order closing the appropriate message will be shown:

```
FundManager'777': stop out #319135 failed
```

5. Final stopout of fund with stopping trading on the fund account and the fund symbol. If stopout will be processed on the fund account, the following message will be shown in the server journal:

```
FundManager'777': close fund orders due fund stopout
```

In case of error of order close operation, appropriate message will be displayed:

```
FundManager'777': close # 321342 failed [fund stopout]
```

6. Voting investors via the internal mail system messages after the fund stopout. At the fund stopout the server may start (depending from fund settings) the internal voting using the internal mail system. The internal mail message will be sent to all fund investors.

```
FundManager'777': stopout notification sent, mail vote started [stopout timeout: 1228519140 (2008.12.05 23:19), total investors: 21]
```

When an error occurs in the server journal you can find a message:

```
FundManager'777': error sending stopout notification [stopout timeout: 1228519140 (2008.12.05 23:19), total investors: 21]
```

If investor want to stay in fund, the following message will be appeared:

```
FundManager'777': fund TF001 orders for account '23618' unchanged due to mail reply body with 'YES' [stopout timeout: 1228519140]
```

If investor want to close own investments, in the server journal the following message will be shown:

```
FundManager'777': close fund TF001 orders for account '23618' due to mail reply body with 'NO' [stopout timeout: 1228519140]
```

When an error occurs during open order requesting, in the server journal you can find a message:

```
FundManager'777': error during open orders request for account '23618' [stopout timeout: 1228519140]
```

When an error occurs during order close operation in the server journal you can find an error message:

```
FundManager'777': close #319136 failed [stopout timeout: 1228519140]
```

7. Margin requirements verification at new position opening and pending orders activations. The first brackets indicates current equity, margin requirement, max initial margin level, new margin requirement after new position opening. In case of new order opening deny no any messages are printed into the server journal, but fund account manager will receive “Not enough rights” message as the answer on sent request. In case of activated pending order removing due to max margin level limitation the error message will be shown in server journal:

```
FundManager'777': order #319228 was deleted - reached 20.00% initial margin limit [PrevEquity 8755.00, PrevMargin: 1525.15, MarginLimit: 1751.00, NewMargin: 4297.75]
```

In case of error of pending order removing appropriate message will be displayed:

```
FundManager'777': error order #319228 deletion - reached 20.00% initial margin limit [PrevEquity 8755.00, PrevMargin: 1525.15, MarginLimit: 1751.00, NewMargin: 4297.75]
```

8. Investor Password Protection mode. In case of successful checking of investor password the field “Comment” of order is cleared and into the server journal no any messages are printed. Note, the investor password protection mode is disabled for the fund unit purchasing from account indicated in parameter “Pay Incentive to Account”.

In case of incorrect password an investor will receive «Not enough rights» message as the answer on sent request. At the same time if «Comment» field were any symbols, into the server journal appropriate message will be displayed:

```
192.168.0.5 '24679': invalid investor password [FundManager '777', symbol TF001]
```

**Warning!** Huge amount of invalid investor password error may indicate about password attack. You need to track such type of errors and apply technical and administrative actions if any.

9. Cyclic fund units closing. In the brackets you can find end time of current cycle and period of cycle:

FundManager'777': close fund orders due fund cycle end [end time: 2008.12.04, life time: 7 days]

In case of error of fund units closing into the appropriate message will be printed:

FundManager'777': close # 321342 failed [fund cycle end]

10.Reinvesting in cyclic funds. When is enabled, all investor's fund units are reinvested (after incentive payments) using current fund unit price. Closed for reinvesting orders have comment «fund cycle end [reinvest]».

In case of successful opening new reinvested order into the server journal you can find message:

FundManager'777': order #321348 opened [reinvesting #321342][fund cycle end]

In case of error of opening new reinvesting order the following message will be shown:

FundManager'777': reinvesting #321342 failed [fund cycle end]

11.Fund pending requests. Filtration of false requests of fund units closing. Internal email notification.

Pending request for fund unit closing is considered to be false, if at the time of reporting the account does not have bought fund units. All of the false requests are removed when preparing the notification report. Upon successful removal of the false request in the server journal you can find message like:

FundManager'777': close #322743 [cancelled, false request]

In case of error of pending order closing into the server journal the message will be displayed:

FundManager'777': close #322743 failed [cancelled, false request]

In case of successful report notification sending the message with summary information will be shown:

FundManager'777': report sent to '777' - Buy Volume: 1500.00, Sell Volume: 300.00, Total: 1200.00 (TF001 requests at 2008.12.28 00:10)

In case of error of report notification sending the error message will be displayed:

FundManager'777': error sending report to '777' - Buy Volume: 1500.00, Sell Volume: 300.00, Total: 1200.00 (TF001 requests at 2008.12.28 00:10)

12.Fund pending requests. Pending requests processing.

When an error occurs during order close operation (only BUY, SELLSTOP and SELLLIMIT orders are processed) by fund pending symbol in the server journal you can find an error message:

```
FundManager'777': close # 321387 failed [fund request processing]
```

In case of successful opening new fund unit (based on pending request) into the server journal the message will be displayed:

```
FundManager'777': open order #321389 for '24682' buy 1200.00 TF001 at 1.00000 - by request # 321387
```

In case of error of opening new fund unit (based on pending request) you can find an error message:

```
FundManager'777': failed to open order for '24682' buy 1200.00 TF001 at 1.00000 - by request # 321387
```

In case of error of closing fund unit as result of SELLSTOP or SELLLIMIT processing you can find message:

```
FundManager'777': close #321393 failed [fund request processing]
```

13. Fund account comment updating. In case of successful comment updating following message will be shown:

```
FundManager'777': fund account comment updated [virt_diff: 0.00000]
```

In case of error of comment updating you can find an error message:

```
FundManager'777': error fund account comment updating [virt_diff: 0.00000]
```

## Conclusion

Fund with an unlimited number of investors has become a reality with the FundManager plugin.

Transparent and clear solution with usage of the client terminal allows for the fund manager to manage the unlimited investors accounts and the same way like to manage one trade account.

FundManager plugin is the property of LoreConsult Ltd. For more information send request to [info@loreconsult.com](mailto:info@loreconsult.com)