

FTS Real Time Client: Option Analyzer

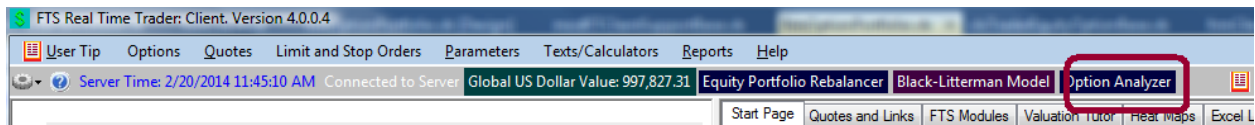
The FTS Real Time Client (Windows Version) has a powerful feature to help you manage the risk of an equity portfolio with equity options.

We will illustrate the use of this feature using the “30 Stocks and Index Options” case and the “[Hedging with Options](#)” project. The objective is to take an arbitrary equity portfolio and hedge it with index options only. This write up assumes that you have read the “[Hedging with Options](#)” project and that you know how to use the option “Greeks” to hedge risk.

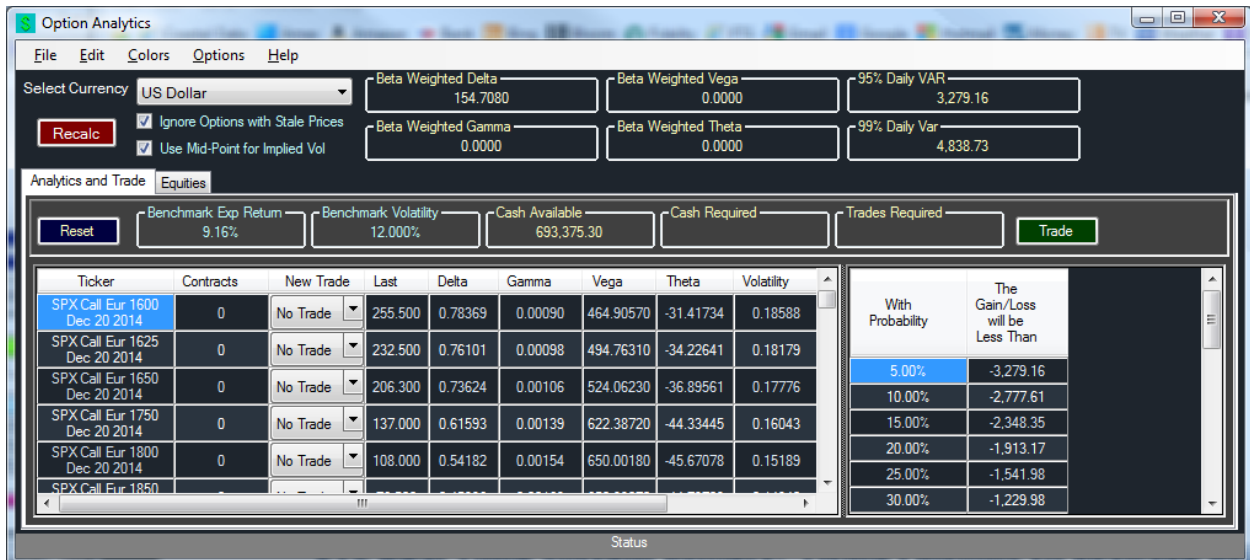
The Option Analyzer window:

- Shows you what would happen to your portfolio-wide deltas and gammas, as well as the portfolio Value at Risk for proposed trades.
- It also shows you the cost of the proposed trades.
- And if you want, you can go ahead and execute the trades in the same window

You access the Option Analyzer by clicking the button outlined here:



You will see a window like the one shown below; we had already bought some stocks when we took this picture. It shows you the options available for trading and the current portfolio risk:



- **Recalculating the Analytics:** If you want to update the analytics because prices change, click the “Recalc” button.

- **Stale Prices:** We have checked “Ignore Options with Stale Prices. This is because even some index options don’t necessarily trade all the time. If the price is outside the bid-ask spread, we call that a stale price. If the intrinsic value exceed the option price, we call that a stale price.
- **Mid Point for Implied Vol:** It calculates implied volatilities for the options. You can do this in two ways: use the last traded price or use the mid-point of the bid and ask.
- **Beta-Weighted values:** At the top, you see the beta-weighted option hedge parameters. The calculation is explained in the “[Hedging with Options](#)” project.
- **Value at Risk:** you are also shown the 1% and 5% daily VaR.
 - The calculation is based on a simulation using the expected return and volatility of the stock benchmark.
- **Gain/Loss Probabilities:** At the bottom right, there is a table showing you what might happen based on movements in the stock benchmark in one day. In our screen, there is a 5% probability of losing more than 3,279.16. There is a 20% probability of losing more than 1,913.17. If you scroll down, you will see the probabilities of gains as well.

Hypothetical Trades

The most powerful feature is the “what if” analysis. Consider the following proposed trade: sell one contract of the first listed option:

The screenshot shows the 'Option Analytics' window with the following data:

Ticker	Contracts	New Trade	Last	Delta	Gamma	Vega	Theta	Volatility
SPX Call Eur 1600 Dec 20 2014	0	Sell 1	255.500	0.78369	0.00090	464.90570	-31.41734	0.18588
SPX Call Eur 1625 Dec 20 2014	0	No Trade	232.500	0.76101	0.00098	494.76310	-34.22641	0.18179
SPX Call Eur 1650 Dec 20 2014	0	No Trade	206.300	0.73624	0.00106	524.06230	-36.89561	0.17776
SPX Call Eur 1750 Dec 20 2014	0	No Trade	137.000	0.61593	0.00139	622.38720	-44.33445	0.16043
SPX Call Eur 1800 Dec 20 2014	0	No Trade	108.000	0.54182	0.00154	650.00180	-45.67078	0.15189
SPX Call Eur 1850								

Beta Weighted Delta	76.2924	Beta Weighted Vega	-46,490.5731	95% Daily VAR	1,640.51
Beta Weighted Gamma	-0.0898	Beta Weighted Theta	3,141.7341	99% Daily Var	2,435.27

Benchmark Exp Return	9.16%	Benchmark Volatility	12.000%	Cash Available	693,375.30	Net Cash Outflow	12,524.95	Trades Required	1/188
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With Probability	The Gain/Loss will be Less Than
5.00%	-1,640.51
10.00%	-1,386.86
15.00%	-1,170.52
20.00%	-951.91
25.00%	-766.00
30.00%	-610.15

It tells you that if you did this:

- Your beta-weighted delta would decrease by more than half.
- Your VaR would also decrease, almost by half.
- It would require a cash outflow of 12,524.95
 - Because it’s a short sale, you would not get the premium until you sold the option; the cash outflow reflects the 50% deposit you would have to put up and the transaction cost of the trade

- You can find more details about this calculation in the "[Equity Portfolio Rebalancing](#)" document; even though these are options, the steps in the calculation are the same.
- It tells you the probability of winning and losing: you can see that now, there is a 20% chance of losing more than 951.91, which means an 80% chance of not losing more than that.

Reset will set every option to "No Trade".

The green "Trade" button will execute the trades for you. After you receive all the trade confirmations, click "Recalc." You have to do this manually because it may take a few second to receive all the trade confirmations, and it is much easier for you to see that the trades were done and hit "Recalc."

You can use this to decide what options to buy and sell. You can experiment with different strategies and see what happens.