Trading simulator

Purposes

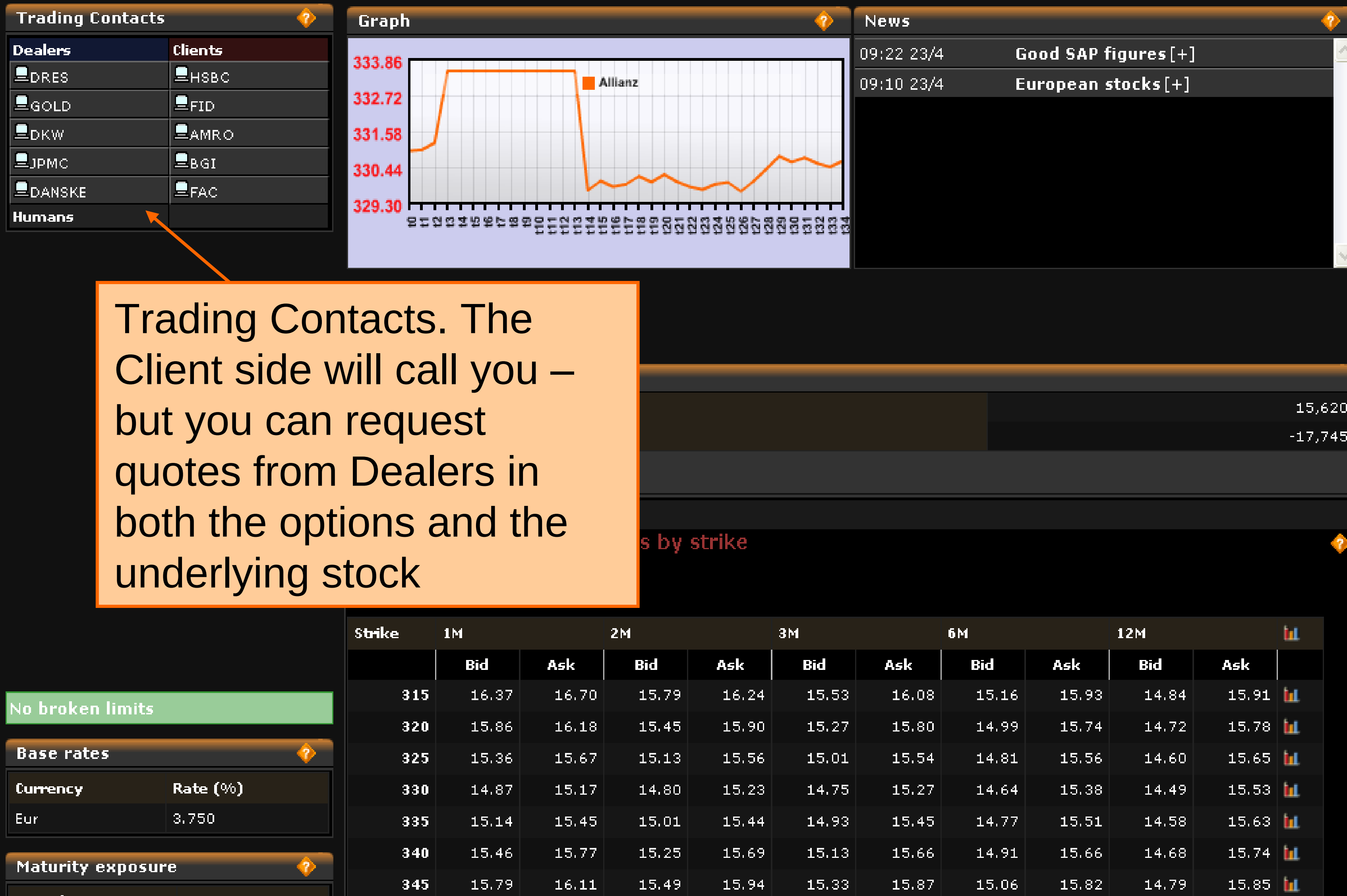
- A practical insight into the options market
- Observe and manage Greeks exposure in a moving market
- Try out trading strategies
- Balance need to deal with incoming client requests, Dealer quote requests and running your book the way you want it – liquidity issues

The trading platform - overview

Features

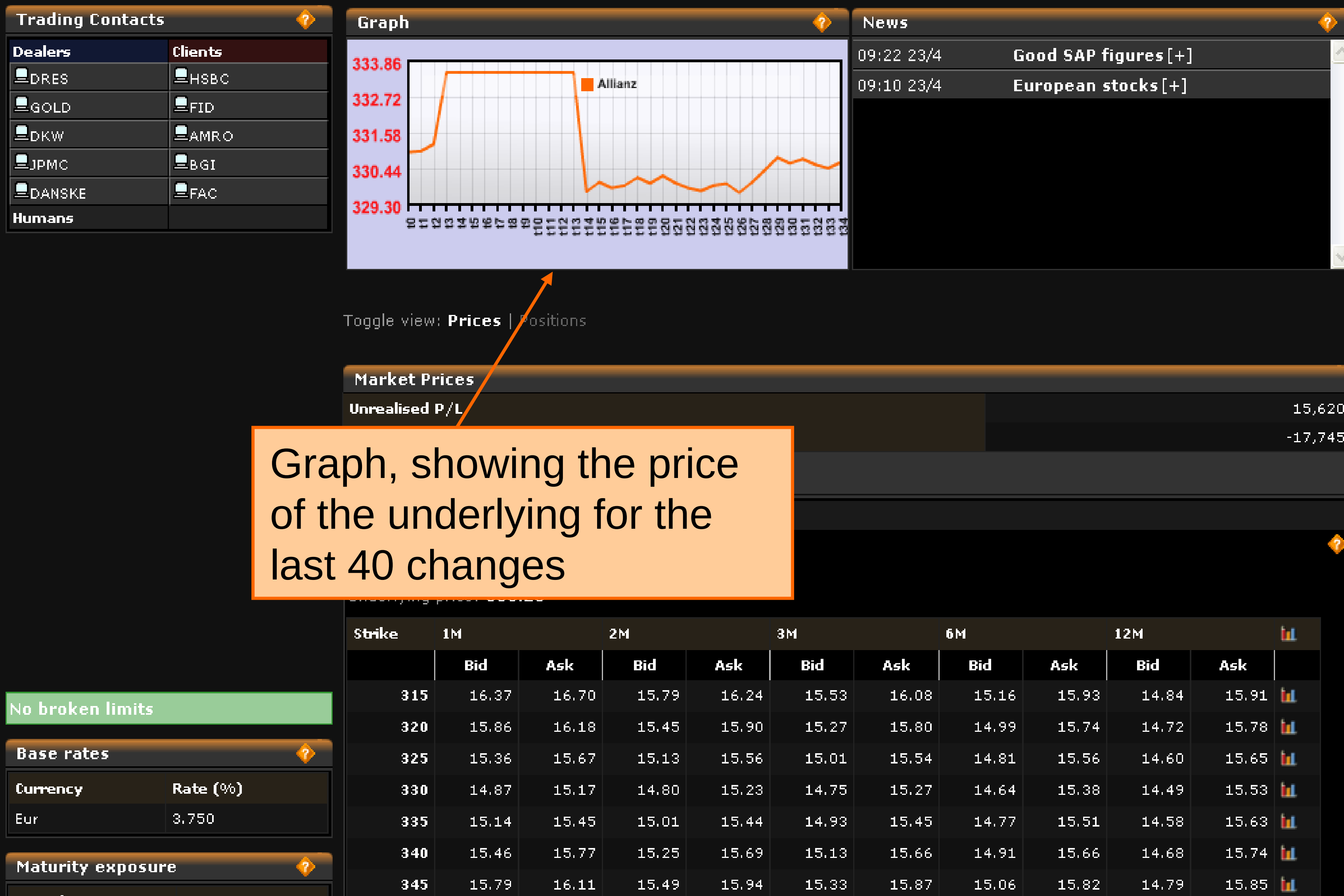
- BSM pricing engine
- European Equity Options
- Greeks: Delta, Gamma, Vega, Theta
- Trade with electronic buy-side and sell-side traders in OTC market…
- … and peer-to-peer with others

Layout of trading client



Trading Contacts. The Client side will call you – but you can request quotes from Dealers in both the options and the underlying stock

Layout of trading client



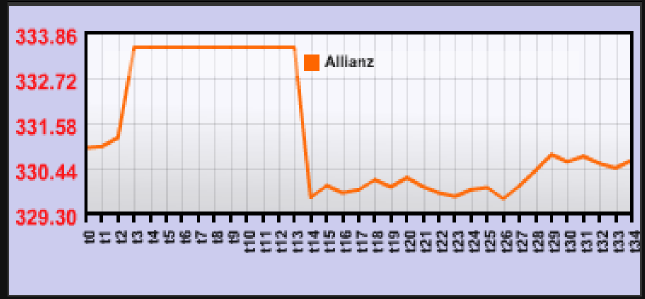
Graph, showing the price of the underlying for the last 40 changes

Layout of trading client

Trading Contacts

Dealers	Clients
DRES	HSBC
GOLD	FID
DKW	AMRO
JPMC	BGI
DANSKE	FAC
Humans	

Graph



News

09:22 23/4 Good SAP figures [+]

09:10 23/4 European stocks [+]

Incoming news flow, relating to underlying price and vol. Headings expand to reveal further information (Click **[+]**)

Toggle view: **Prices** | Positions

Market Prices

Unrealised P/L	15,620
Realised P/L	-17,745

stocks | **stockoptions**

Overview | Detail | Calculator

Allianz European call options by s

Show: Calls Vol go

Underlying price: **330.23**

Strike	1M Bid	1M Ask	2M Bid	2M Ask	3M Bid	3M Ask	6M Bid	6M Ask	12M Bid	12M Ask
315	16.37	16.70	15.79	16.24	15.53	16.08	15.16	15.93	14.84	15.91
320	15.86	16.18	15.45	15.90	15.27	15.80	14.99	15.74	14.72	15.78
325	15.36	15.67	15.13	15.56	15.01	15.54	14.81	15.56	14.60	15.65
330	14.87	15.17	14.80	15.23	14.75	15.27	14.64	15.38	14.49	15.53
335	15.14	15.45	15.01	15.44	14.93	15.45	14.77	15.51	14.58	15.63
340	15.46	15.77	15.25	15.69	15.13	15.66	14.91	15.66	14.68	15.74
345	15.79	16.11	15.49	15.94	15.33	15.87	15.06	15.82	14.79	15.85

No broken limits

Base rates

Currency	Rate (%)
Eur	3.750

Maturity exposure

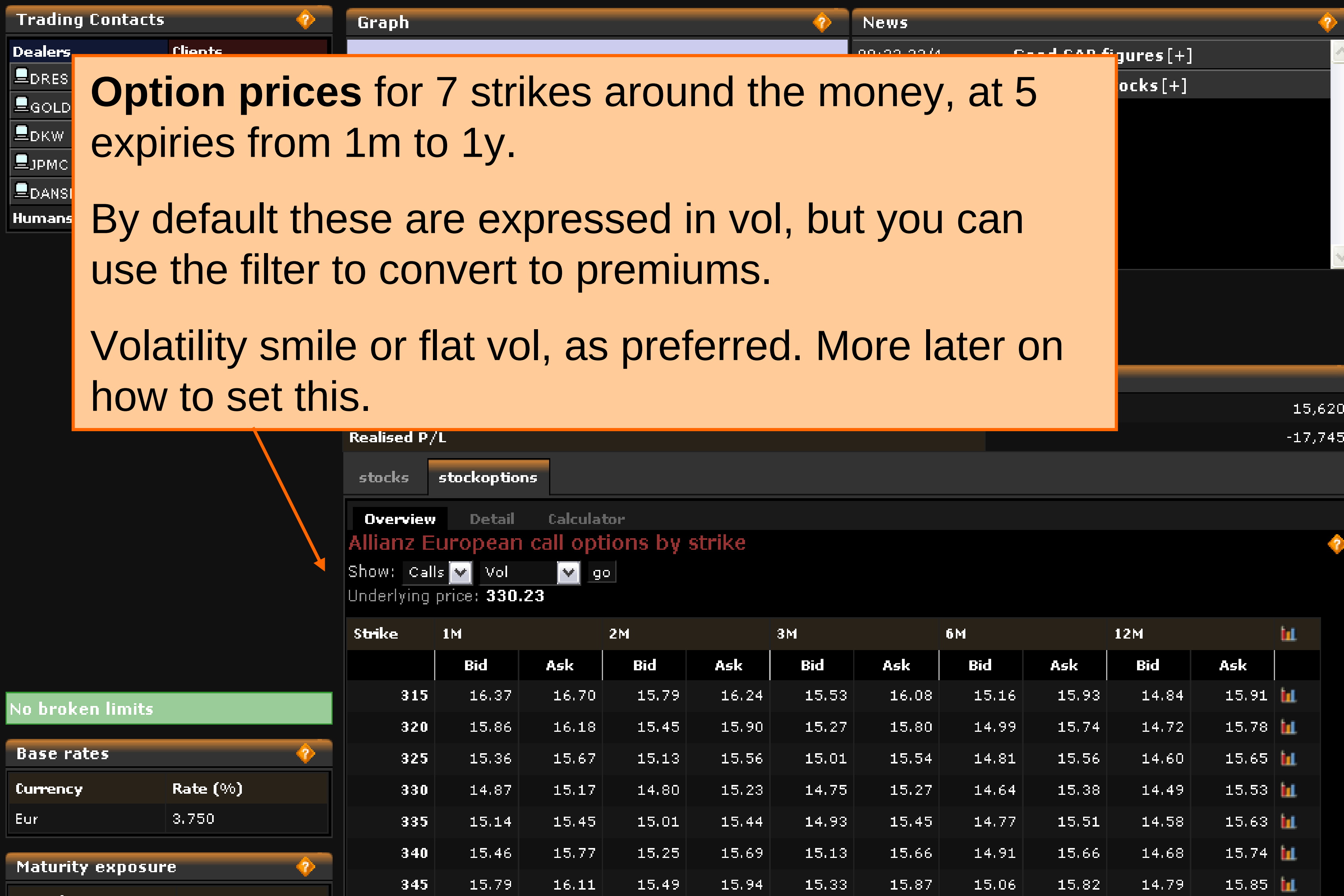
Period	Exposure

Layout of trading client

Option prices for 7 strikes around the money, at 5 expiries from 1m to 1y.

By default these are expressed in vol, but you can use the filter to convert to premiums.

Volatility smile or flat vol, as preferred. More later on how to set this.



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325	15.36	15.67	15.13	15.56	15.01	15.54	14.81	15.56	14.60	15.65
330	14.87	15.17	14.80	15.23	14.75	15.27	14.64	15.38	14.49	15.53
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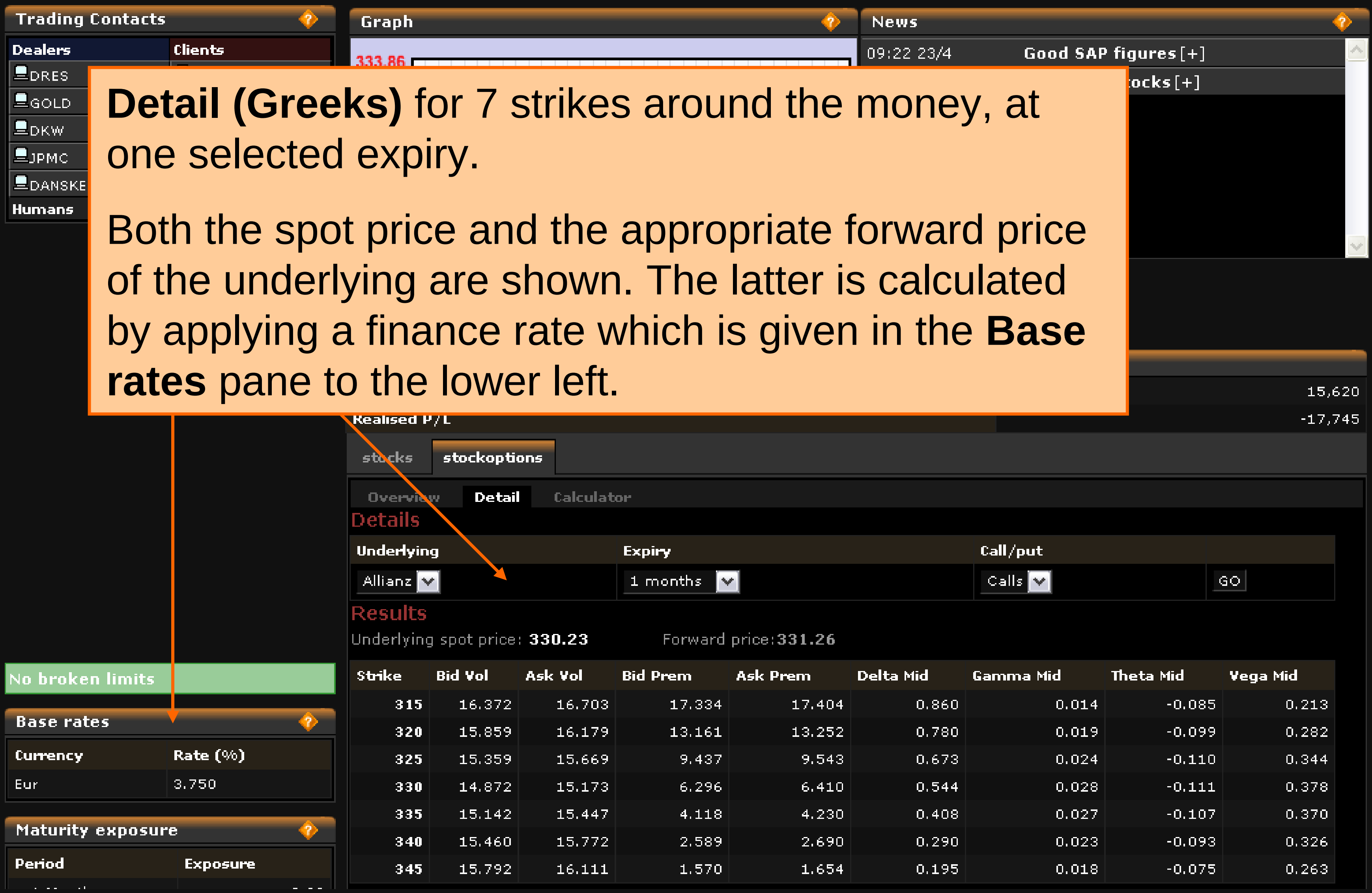
Layout of trading client



Strike	Bid Vol	Ask Vol	Bid Prem	Ask Prem	Delta Mid	Gamma Mid	Theta Mid	Vega Mid
315	16.372	16.703	17.334	17.404	0.860	0.014	-0.085	0.213
320	15.859	16.179	13.161	13.252	0.780	0.019	-0.099	0.282
325	15.359	15.669	9.437	9.543	0.673	0.024	-0.110	0.344
330	14.872	15.173	6.296	6.410	0.544	0.028	-0.111	0.378
335	15.142	15.447	4.118	4.230	0.408	0.027	-0.107	0.370
340	15.460	15.772	2.589	2.690	0.290	0.023	-0.093	0.326
345	15.792	16.111	1.570	1.654	0.195	0.018	-0.075	0.263

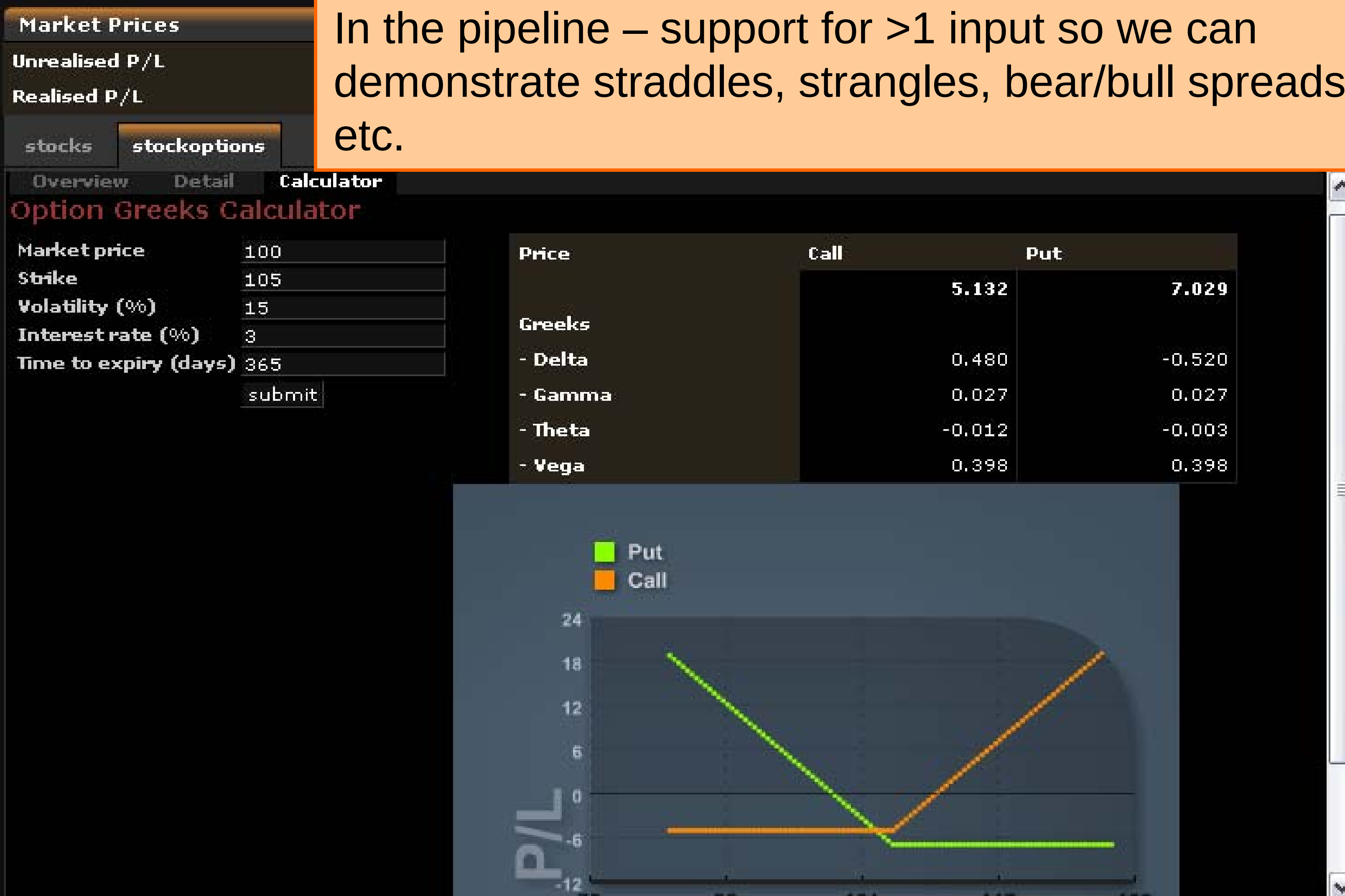
Detail (Greeks) for 7 strikes around the money, at one selected expiry.

Both the spot price and the appropriate forward price of the underlying are shown. The latter is calculated by applying a finance rate which is given in the **Base rates** pane to the lower left.

Calculator for user-defined values.

The four main Greeks are shown for call and put with a payoff diagram comparing the two.

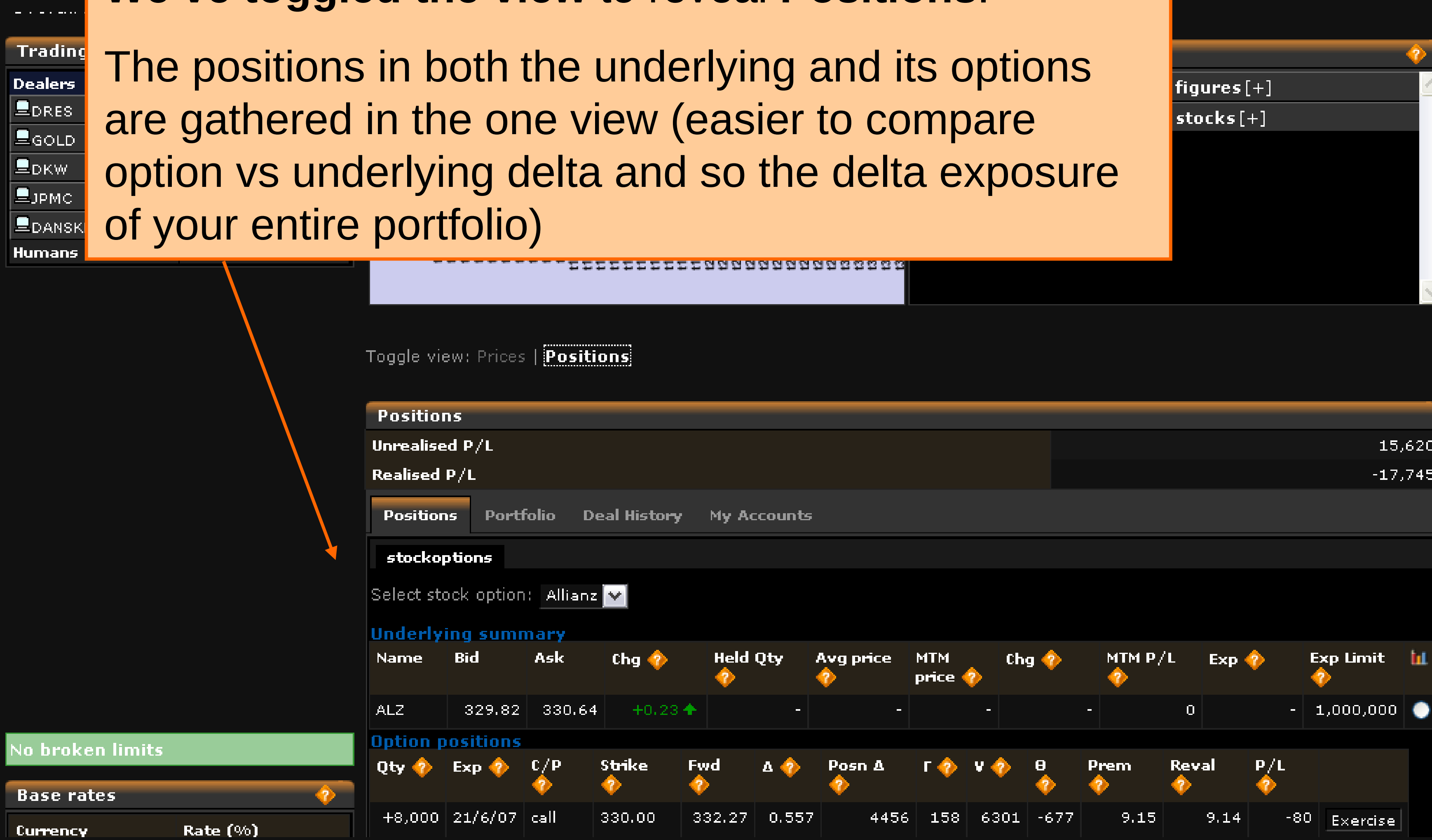
In the pipeline – support for >1 input so we can demonstrate straddles, strangles, bear/bull spreads etc.



Positions

We've toggled the view to reveal **Positions**.

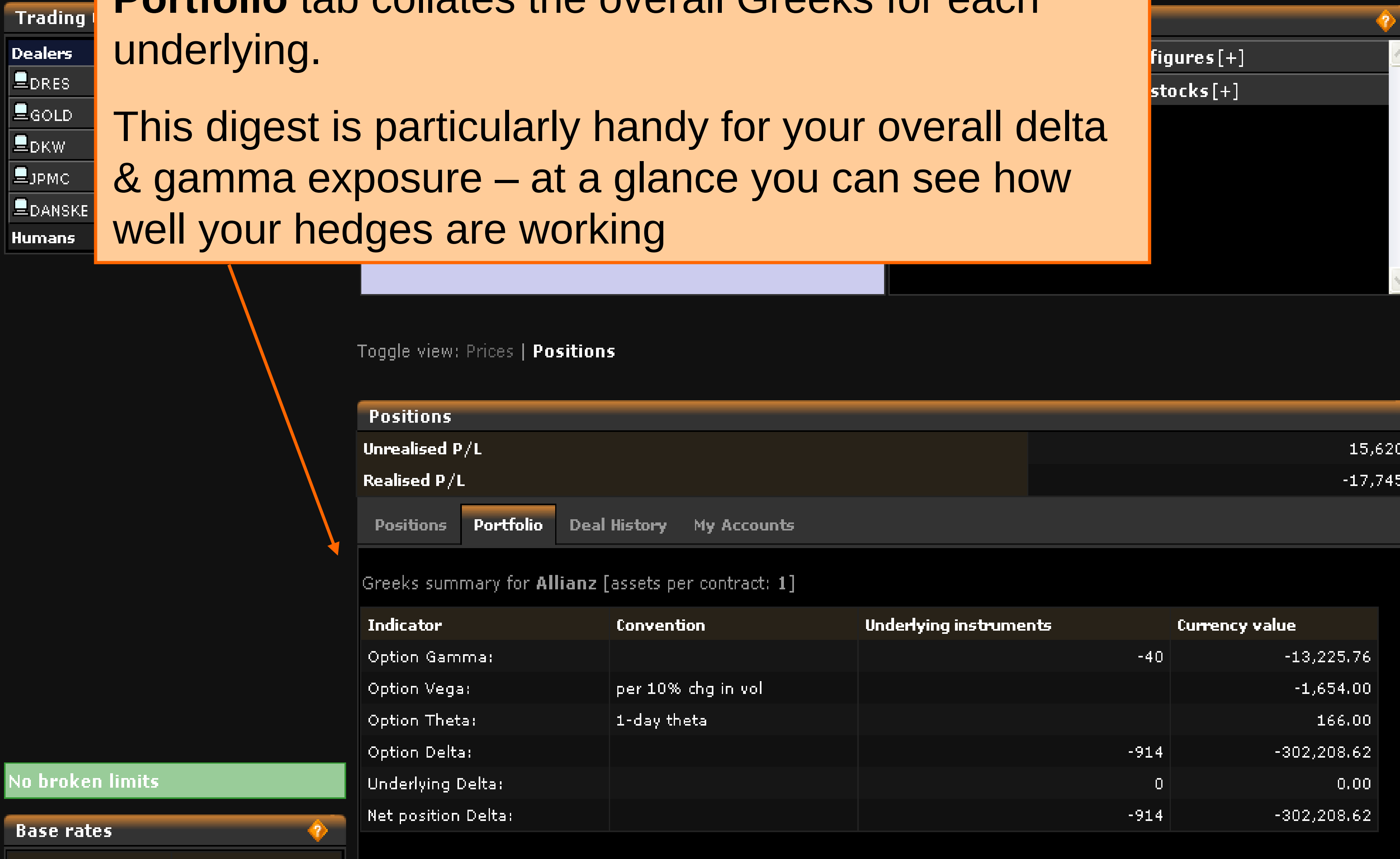
The positions in both the underlying and its options are gathered in the one view (easier to compare option vs underlying delta and so the delta exposure of your entire portfolio)



Portfolio

Portfolio tab collates the overall Greeks for each underlying.

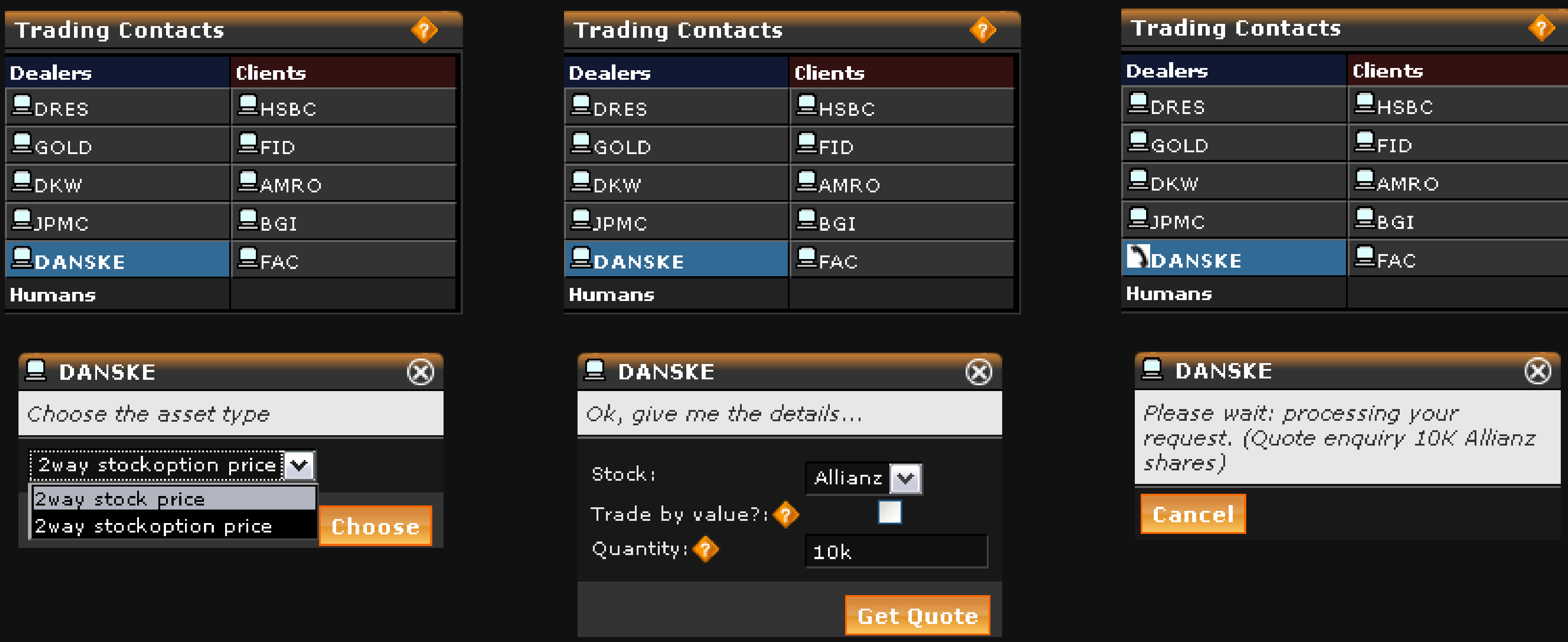
This digest is particularly handy for your overall delta & gamma exposure – at a glance you can see how well your hedges are working



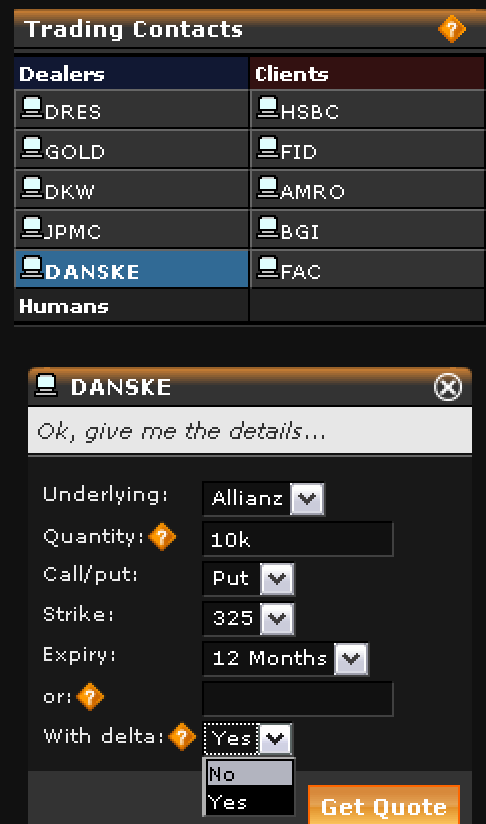
Indicator	Convention	Underlying instruments	Currency value
Option Gamma:		-40	-13,225.76
Option Vega:	per 10% chg in vol		-1,654.00
Option Theta:	1-day theta		166.00
Option Delta:		-914	-302,208.62
Underlying Delta:		0	0.00
Net position Delta:		-914	-302,208.62

The trading platform – asking for & trading on quotes

Outgoing quote request in the stock



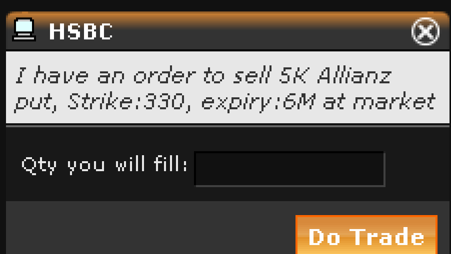
Outgoing quote request in the option



Trading Session 1

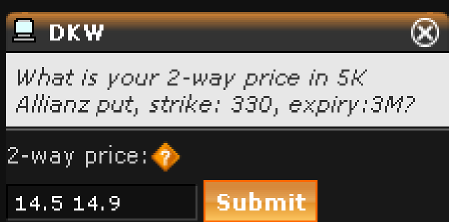
The trading platform – incoming requests

Incoming client requests



- Client-side requests are for a **variable quantity at the market price**
- You choose whether to
  - Fill the whole order (default)
  - Fill it partially (change the quantity)
- **As a rule, honour these orders** (business is business). The system measures how effectively you've done this
- **The consequence may be a position you don't want**. Get out of it by going into the dealer market and unwinding!

Incoming quote requests



- Incoming quote requests are for a variable quantity at a price to be negotiated (2-way price)
- 2-way price format is:

  {bid} <space> {ask}
- You can trade in a smaller quantity by appending

  ‘ in 4k’
- Again, your market-making activity is monitored.
- Be quick and be close to the market – AI traders know where the market is and their patience is limited

Trading session 2

Trading metrics

Post-trading feedback – the dealer's report

Often, the best lessons are learned in the debrief.

The simulation will:

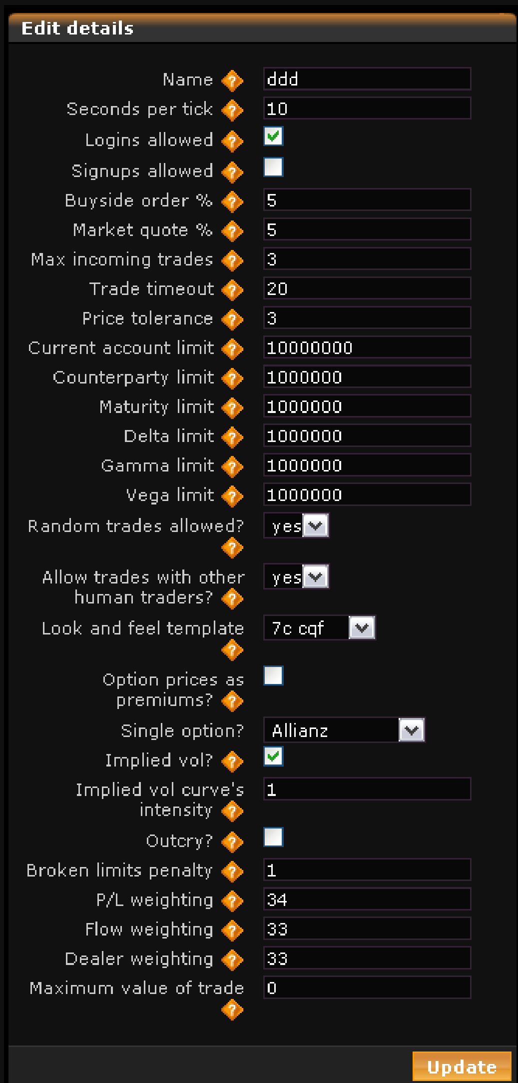
- track your performance over the duration of the trading relative to the group average;
- itemise your successful trades (when you banked your gains/losses, and how large they were);
- show how active you were in the market

Self-service: managing your own simulations

Your instances

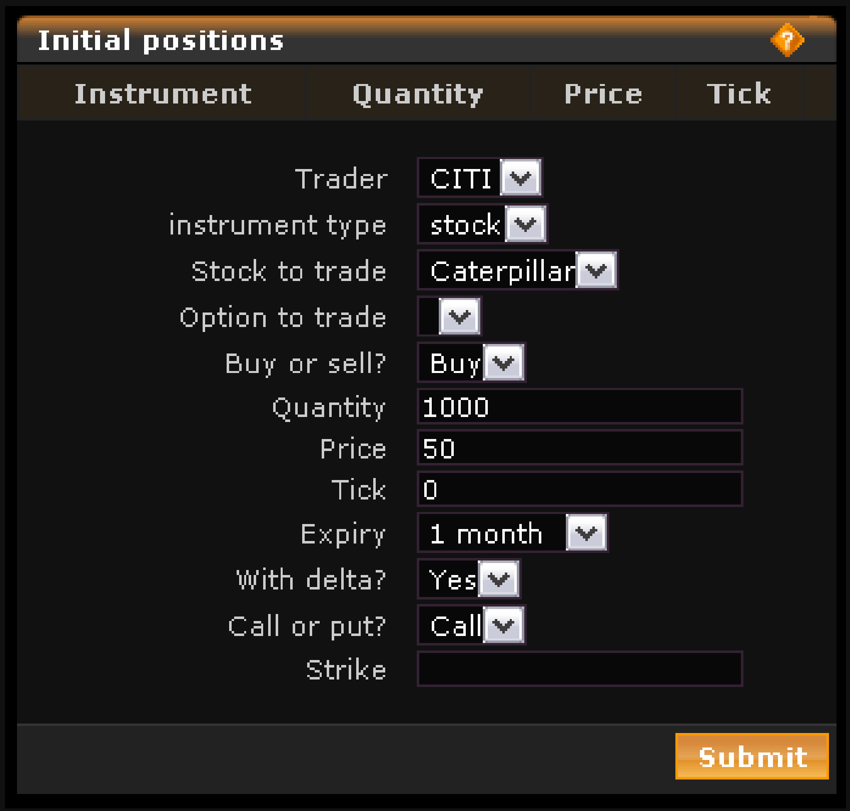
The list of your current instances. If you have edit rights to the scenario on which it is based, you can link to it.

Instance parameters



- The main control panel for each instance
- Parameters include:
  - tick speed
  - risk limits
  - type & frequency of quote requests

Starting positions



- Add stock or option positions at the start of the simulation so you have something to work off
- These can also be added later at set points in the simulation (eg during a crash or jump)

Support & Community

Technical queries/issues

- Bug reports or technical questions to:
  - simulations@7city.com
- Discussion boards at wilmott.com (under 'CQF Alumni' section)
- Responses and solutions will be distilled into FAQ thread

Suggestions/new features

- Thread on discussion boards for user suggestions
- New scenarios will be added periodically
- In the pipeline:
  - FX Options
  - Scenario editor (so you can design your own market conditions)

How to get the best out of it

- Thread on discussion board to share insights, approaches, discussions of the quant side of things