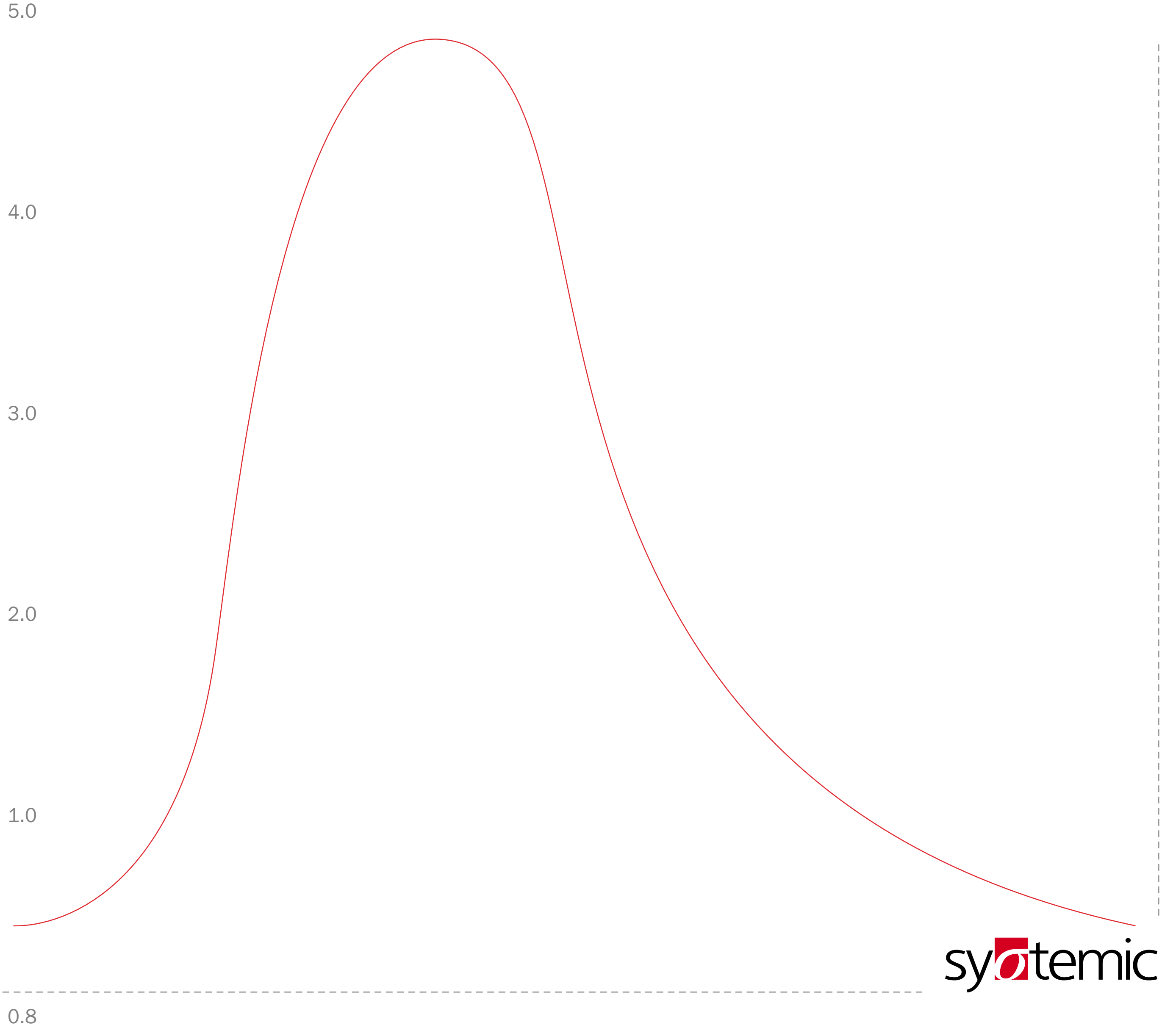
RiskValue
PLATFORM

rvExchanges

Back Office



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Back Office

RV Exchanges© is an integrated solution for professionals who trade or manage positions in International Derivatives Exchanges, such as:

- Securities firms who trade in Domestic and International Derivatives Exchanges
- Derivatives Clearing institutions
- Fund managers who manage positions in Exchange Traded Derivatives
- Proprietary portfolio managers

Integrated Portfolio Management

RV Exchanges© is based on the RiskValue Platform©, which allows it to be fully integrated with a broader family of specialized solutions covering Portfolio Management and Risk Management, including Market, Credit and Operational Risk.

Key features:

- Offers multi-instrument and multi-exchange support, including Over-the-Counter Derivatives
- Calculates Settlement and Margin in Real time via complete replication of relevant algorithms used by Derivatives Exchanges
- Allows building flexible commission schemes, and reconciles easily with brokers and exchanges
- Includes Web front-ends with real time portfolio information, for internal or client usage
- Offers hundreds of user friendly client reports with automatic scheduling via fax and email
- Incorporates advanced Risk Management features including Risk attribution and global portfolio Value-at-Risk, via seamless integration with RV Market© solution
- Incorporates advanced Portfolio management functionality such as Performance attribution, via seamless integration with RV Asset© solution

Simplify your Back Office processes

Thanks to its user friendly design and complete incorporation of settlement, margin, and fees algorithms, RV Exchanges© allows you to prepare early for your end-of-day processes. An easy reconciliation process with brokers and exchanges allows you to focus on exception management and complete your daily back office operations quickly and safely.

Collect all your Cash & Derivatives positions within a single system

Based on RiskValue Platform© multi-currency, multi-instrument and multi-exchange configuration, RV Exchanges© will collect in real time all trades that may have been executed under your own or your customer's accounts. The trades may be automatically fed into the system using electronic exchange feeds, or interfaces with Trading and Clearing platforms.

RV Exchanges© allows your Customers to maintain multiple Clearing and Trading accounts, giving maximum flexibility to set up an environment with different clearing agents in one or more exchanges, and different executing brokers. **(Screen 1)**

Positions may be sub-allocated to different accounts based on predefined settings or using the system's user friendly Trade Allocation wizard.

The entire trade history is safely kept within the system's database, allowing "switching" at any time to a specific date.

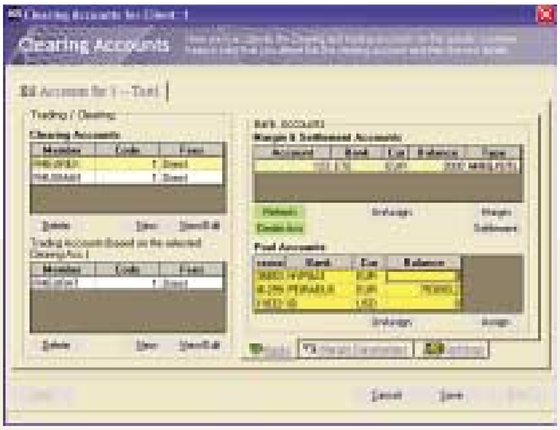
Generate automatically derivative instrument specifications

Instrument specifications are easily maintained either through electronic exchange feeds or with the usage of a user-friendly Securities wizard. Different identities may be associated to each security as defined by Exchanges and Brokers, and as preferred by Clients. **(Screen 2)**

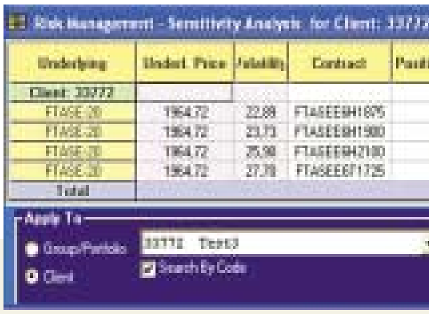
Calculate Profit & loss in real time

RV Exchanges© continuously revaluates in the background the *settlement amounts* and *market value* of all positions including Futures and Options based on real time price information provided by electronic exchange feed or data vendors.

Screen 1



Screen 2



Evaluate Margin requirements in Real time

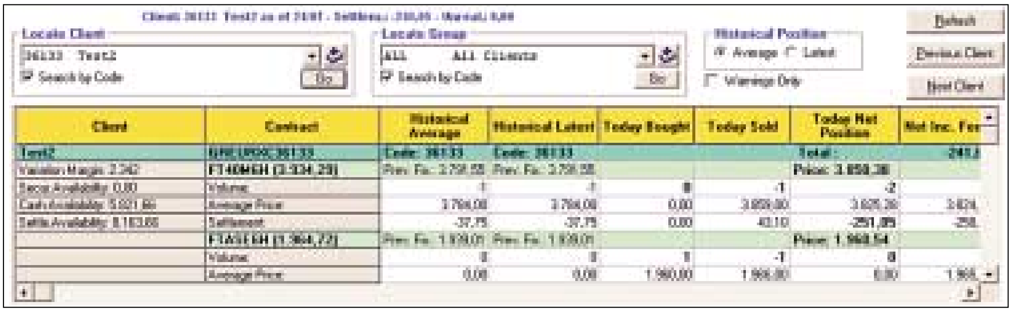
RV Exchanges© *fully* replicates the algorithms used by major exchanges to calculate the margin requirements. This means that you may monitor your own or your customer's margin requirements during the entire trading session, even in situations where the markets have moved significantly. This is not the case for systems which base their calculations on the so called "vector files" containing information from the previous trading session. Embedded margin algorithms include:

- SPAN algorithm developed by the Chicago Mercantile Exchange (CME) and used by most US and many non US Derivatives Exchanges
- London SPAN, a variation of the CME SPAN used by Euronext - LIFFE
- RIVA margining algorithm developed by Sweden's OM Group and used in numerous international derivatives exchanges

- Scalable Fees based on options' premium
- Caps and floors on total fees

Offer your clients and partners a web based, real time snapshot of their Portfolio

Summary information such as net position per instrument, average cost, profit & loss, margin requirement and cash balance may be easily monitored thanks to the system's highly acclaimed ITrader web form. **(Screen 3)**



(Screen 3)

Calculate Commissions accurately

In a global environment such as described above, different fees schemes may apply to different instruments, exchanges, clearing or trading agents etc. Furthermore, each scheme may depend on various factors such as the traded volume. Whether you wish to charge your clients or simply to crosscheck the fees that have been charged to you by your partners, the calculation process can quickly become a nightmare.

RV Exchanges© fully automates this process by allowing to easily setup multiple fees schemes charged by the clearing agents, trading agents, and the exchanges for different instruments and underlying products. These may subsequently be applied to individual accounts. Each such scheme may be based on different currency, and may accommodate numerous features:

- Scalable fees based on total volume, measured in units or currency
- Different fees for intraday trading
- Special fees for exercising/ closing of contracts

Manage your Cash Accounts

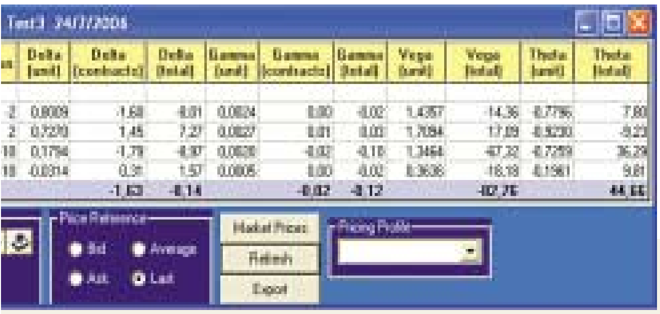
RV Exchanges© maintains a mirror image of your own and your customers' cash accounts. These "mirror" accounts may import automatically actual cash deposits and withdrawals. Thereafter, each "mirror" account is automatically debited/ credited with settlement amounts and fees as calculated and reconciled by the system. This allows you to evaluate continuously the existence of sufficient cash balances and to automatically generate the required funds transfers at the end of the trading day. Pool accounts, as used by several market participants are also accommodated.

Reach informed trading decisions using Risk Analytics

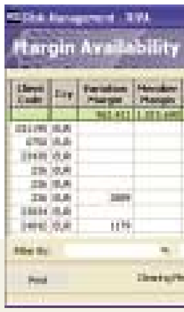
RV Exchanges© produces a wealth of risk analytics to assist the professional in reaching decisions. These include:

- Tabular and graphical *sensitivity analysis* of individual positions or portfolios to changes in the price of underlying instruments, volatility, and passage of time (Delta, Gamma, Vega, and Theta). **(Screens 4-5)**

Screen 4



Screen 5



- Scenario analysis allowing to evaluate the effect of shifting market prices
- Portfolio sensitivity including theoretical Mark-to-Market and Greeks for specified ranges of underlying prices.
- Linear and Monte Carlo Value-at-Risk analysis (requires RV Market© module)

Apply "What-if" scenarios

RV Exchanges© allows you to evaluate the effect of a change in market conditions to any position, actual or hypothetical. This might refer to profit & loss, margin requirements, sensitivity, and other risk characteristics. A new scenario may be applied via one ore more "test deals" affecting simultaneously all calculations, or manual alterations to individual prices or positions on specific screens.

Obtain Early Warning indicators

RV Exchanges© will warn you when any of your own or customers' accounts approaches his position limits, presents a high realized or unrealized loss, or is short of cash to cover the daily settlement and margining requirements. As this calculation is performed in the background in real time, you will be able to reach a decision on modifying the position, increasing the cash balance, or bringing more collateral. (Screen 6)

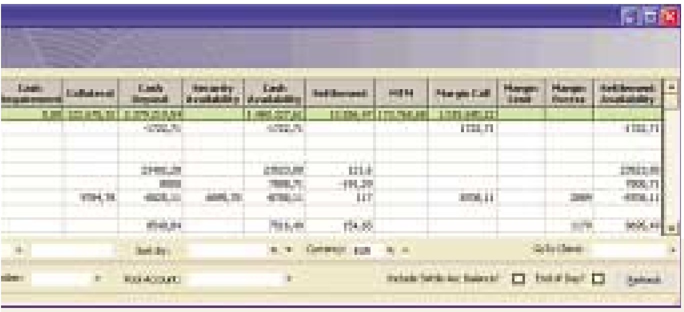
Generate Accounting entries for your books

RV Exchanges© generates all accounting entries (On and Off Balance sheet) corresponding to the daily activity, based on your own accounting scheme. A high degree of customization is possible in order to accommodate even the most demanding accounting processes.

Offer detailed and flexible reporting

The system includes hundreds of user friendly reports analysing all above elements for internal or customer use, grouped together in a convenient manner. These reports may be customized, and you may add your own new reports. An automatic email scheduler allows sending periodic reports to your customers and partners via fax and email.

Screen 6



RISKVALUE PLATFORM

RV Exchanges

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